ENVIRONMENTAL SCAN

I-84, Ten Mile Interchange
Project No. ST-84-1 (542) 42
Agreement No. 5851
Key No. 9349

Prepared for

Idaho Transportation Department

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KEY TERMS

EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FHWA	Federal Highway Administration
GIS	Geographic Information System
I-84	Interstate 84
ITD	Idaho Transportation Department
NEPA	National Environmental Protection Act
NRCS	Natural Resources Conservation Service
NR, NRHP	National Register of Historic Places
RUT	Rural - Urban Transition (Zoning Classification)
UGIA	Urban Growth Impact Area

1 EXECUTIVE SUMMARY

This Environmental Scan was prepared by the Idaho Transportation Department (ITD) to provide a preliminary assessment of critical environmental issues for five proposed interchange alternatives at Ten Mile Road and Interstate 84 (I-84), southwest of the City of Meridian as indicated in Figures 1 and 2.

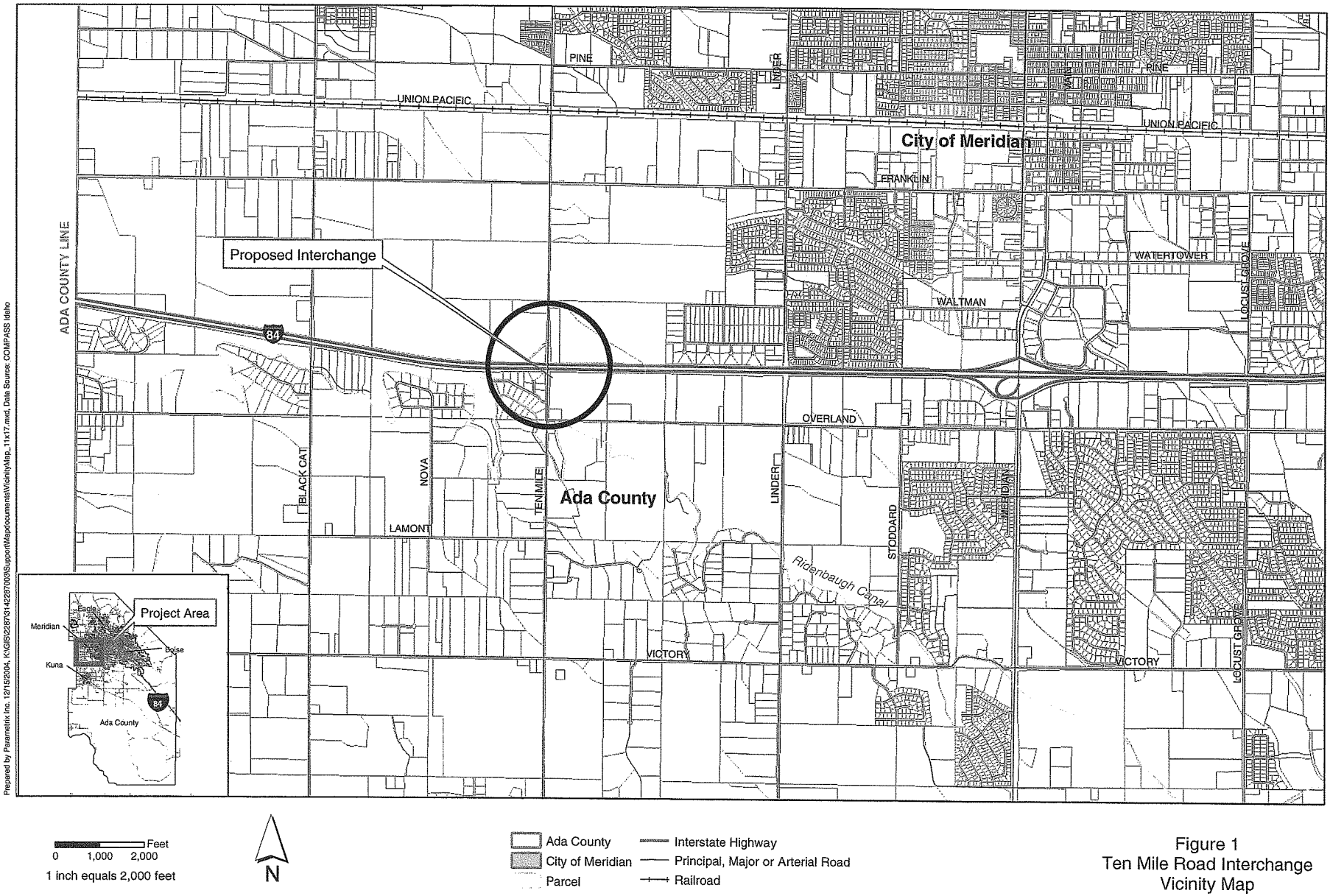
The results of the scan indicate that:

- The proposed interchange is consistent with local and regional land use plans and has been designated as needed infrastructure to accommodate local land use and economic development policies.
- There are not substantial minority populations in the vicinity, and there is a low probability of low-income persons that are likely to be subject to disproportionate impacts.
- Loss of prime farmland from the proposal and secondary impacts is consistent with local and regional land use plans and is likely to occur from urbanization, whether the interchange is constructed or not.
- There are no known archaeological or historic resources that will be displaced or adversely impacted by the interchange alternatives.
- Air quality impacts of the interchange are consistent with the CO and PM10 maintenance plans for the region.
- Noise and other proximity impacts are not likely to adversely impact planned land uses in the vicinity, or can be mitigated by noise barriers.
- There are no impacts to wetlands or to endangered or threatened species of plants or animals.

Based on this Environment Scan, a National Environmental Protection Act (NEPA) Environmental Assessment (EA) would appear to provide the appropriate documentation for this project.

Of the alternatives under consideration, Alternative 1, the standard diamond configuration, appears to have the least overall environmental impacts. It does displace three existing single-family residences; however those residences are targeted for eventual commercial development as shown in local land use plans. Alternative 3, the modified loop in the southeast quadrant avoids the existing single family area, but displaces additional farmland and future commercial development.

The greatest environmental impacts are associated with Alternative 4, the modified loop in the southwest quadrant. This alternative displaces about nine residences and also would displace the current access road for the remaining residences. Redevelopment to the commercial use envisioned in the Comprehensive Plan would be difficult under this alternative because of poor access and the size and configuration of the remaining parcel.



Prepared by Parametrix Inc. 12/15/2004, K:\GIS\228703\14228703\Support\Mapdocuments\VicinityMap_11x17.mxd, Data Source: COMPASS Idaho

Figure 1
Ten Mile Road Interchange
Vicinity Map

Figure 2
Ten Mile Road Interchange
Vicinity Map with Aerial Photo

2 ALTERNATIVES

The following alternatives were developed in consultation with the IDT staff, and based on preliminary analysis.

2.1 Alternative 1, Standard Diamond

This alternative is a standard diamond interchange with ramps in all four quadrants and designed to meet ITD current standards. Traffic control is initially programmed for stop signs at ramp terminals which will be converted to signalized intersections as traffic warrants. A layout for a Standard Diamond Interchange at Ten Mile / I-84 is shown on Figure 3.

2.2 Alternative 2, Offset Diamond Interchange

This alternative is designed to avoid the residential area in the southwest quadrant of the Ten Mile Road / I-84 crossing and the farm building in the southeast quadrant. This alternative relocates Ten Mile Road east as it crosses over I-84. The plan shows that re-aligned Ten Mile will form at new "Tee" intersection with Overland Road and extend south across the Ridenbaugh Canal with three structures before returning to the original Ten Mile Road alignment. To avoid impacts with the Ridenbaugh Canal, this alternative could be shortened to terminate at Overland Road with traffic turning west of Overland Road and south at the existing Ten Mile Road/Overland Road intersection. Standard diamond ramps are added in all four quadrants and designed to meet ITD current standards. Traffic control is initially programmed for stop signs at ramp terminals which will be converted to signalized intersections as traffic warrants. A layout for an Offset Diamond Interchange at Ten Mile / I-84 is shown on Figure 4.

2.3 Alternative 3, Modified SE-Loop Interchange

This alternative is a partial cloverleaf interchange designed to avoid the existing residential area in the southwest quadrant of the Ten Mile Road / I-84 crossing. No ramps are included in the southwest quadrant. Instead a loop ramp is added in the southeast quadrant. Traffic control is initially programmed for stop signs at ramp terminals which will be converted to signalized intersections as traffic warrants. A layout for a Modified SE-Loop Interchange at Ten Mile / I-84 is shown on Figure 5.

2.4 Alternative 4, Modified SW-Loop Interchange

This alternative is a partial cloverleaf interchange designed to reduce the number of intersections with Ten Mile Road in the Vicinity of I-84. For this alternative, Overland Road is re-aligned to intersect Ten Mile Road at the new ramp intersection. No ramps are included in the southeast quadrant. Instead a loop ramp is added in the southwest quadrant. Traffic control is initially programmed for stop signs at ramp terminals which will be converted to signalized intersections as traffic warrants. A layout for a Modified SW-Loop Interchange at Ten Mile / I-84 is shown on Figure 6.

2.5 Alternative 5, Offset Single Point Urban Interchange

This alternative is designed to include all ramp junctions with Ten Mile Road at a single intersection approximately 260 feet north of the I-84. Two bridges are required for the south side ramps to span over I-84. Retaining walls are also required for the south side ramps to minimize right-of-way and to allow for grade differences between adjacent ramps. Traffic control is initially programmed for stop signs at ramp terminals which will be converted to signalized intersections as traffic warrants. A layout for an Offset Single Point Interchange at Ten Mile / I-84 is shown on Figure 7.

DRAFT

Figure No 3

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	Nov, '04	HWL	Alternatives

DESIGNED Refat Barbour	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT
DESIGN CHECKED Bob Munchinski		
DETAILED	CADD FILE NAME	
DRAWING CHECKED	DRAWING DATE:	

PROJECT NO.	PROJECT PLAN SHEET	
ST-84-1 (542) 42	I-84 - TEN MILE INTERCHANGE ALT-1: STANDARD DIAMOND	English COUNTY Ada KEY NUMBER 9349 SHEET 1 OF 5

NOT APPROVED PRELIMINARY FOR CONSTRUCTION

DRAFT

Figure No 4

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	Nov, '04	HWL	Alternatives

DESIGNED	
DESIGN CHECKED	Refat Barbour
DETAILED	Bob Munchinski
DRAWING CHECKED	

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	
CADD FILE NAME	
DRAWING DATE:	

IDAHO TRANSPORTATION DEPARTMENT

PROJECT NO.	ST-84-1 (542) 42
PROJECT PLAN SHEET	I-84 - TEN MILE INTERCHANGE ALT-2: OFFSET DIAMOND
English	
COUNTY	Ada
KEY NUMBER	9349
SHEET	2 OF 5

NOT APPROVED
PRELIMINARY
FOR CONSTRUCTION

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Figure No 5

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	Nov, '04	HWL	Alternatives

DESIGNED	Refat Barbour
DESIGN CHECKED	Bob Munchinski
DETAILED	
DRAWING CHECKED	

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME

DRAWING DATE:

IDAHO TRANSPORTATION DEPARTMENT

PROJECT NO.	PROJECT PLAN SHEET	
ST-84-1 (542) 42	I-84 - TEN MILE INTERCHANGE ALT-3: MODIFIED SE-LOOP	English COUNTY Ada KEY NUMBER 9349 SHEET 3 OF 5

NOT APPROVED FOR CONSTRUCTION

PRELIMINARY

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Figure No 6

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	Nov, '04	HWL	Alternatives

DESIGNED Refat Barbour	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT
DESIGN CHECKED Bob Munchinski		
DETAILED	CADD FILE NAME	
DRAWING CHECKED	DRAWING DATE:	

PROJECT NO.	PROJECT PLAN SHEET	
ST-84-1 (542) 42	I-84 - TEN MILE INTERCHANGE ALT-4: MODIFIED SW-LOOP	English COUNTY Ada KEY NUMBER 9349 SHEET 4 OF 5

NOT APPROVED PRELIMINARY FOR CONSTRUCTION

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	Nov, '04	HWL	Alternatives

DESIGNED Refat Barbour	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT
DESIGN CHECKED Bob Munchinski		
DETAILED	CADD FILE NAME	
DRAWING CHECKED	DRAWING DATE:	

PROJECT NO.	PROJECT PLAN SHEET	
ST-84-1 (542) 42	I-84 - TEN MILE INTERCHANGE ALT-5: OFFSET SINGLE POINT	English COUNTY Ada KEY NUMBER 9349 SHEET 5 OF 5

DRAFT

Figure No 7

NOT APPROVED PRELIMINARY FOR CONSTRUCTION

3 ENVIRONMENTAL SCAN

3.1 Jurisdictions in the vicinity

Ada County: The site is currently in unincorporated Ada County.

City of Meridian: The site is within the city's "Urban Growth and Impact Area." The current city limits are shown on Figure 1, the Vicinity Map.

3.2 Land Use – Comprehensive Plan Designations

Ada County

Existing Conditions

The Ada County Comprehensive Plan designates the site as within Meridian Urban Growth and Impact Area (see Figure 8, Comprehensive Plan). Comprehensive Plan designations are provided in Figure 9. These designations approximate those of the City of Meridian Comprehensive Plan in Figure 10, except that Ada County has "Very Low Residential" designations, in addition to "Low Density Residential".

Impacts

Interchange: Construction of the proposed interchange will provide needed transportation capacity to serve the land use plans of local jurisdictions. Some existing and future land uses may be displaced by the interchange, as discussed in more detail below.

I-84 Widening: I-84 widening to three lanes is expected to occur within existing right-of-way (Community Planning Association of Southwest Idaho [COMPASS 2001]). It will provide needed transportation capacity for the region. It is not expected to displace adjacent uses or create proximity impacts such as noise that cannot be mitigated.

City of Meridian

Existing Conditions

North of I-84, the area is designated as Mixed Use-Regional. This designation provides for development under a master or conceptual plan with innovative and flexible design encouraged. Multi-family residential uses are encouraged at a density of 3 to 40 units per acre. There is no upper limit for non-residential use and may include entertainment uses, major employment centers, and clean industry. Currently, there are no commercial uses within the interchange impact area nor has there been commercial or retail activity in the past (see Figure 10).

South of I-84, the land on both sides of Ten Mile Road is designated commercial. Such uses are intended to be located along transportation corridors and include small commercial centers and individual businesses. Uses include retail, wholesale, service, office, and limited manufacturing. For the area in the SW quadrant, which is currently residential, future commercial redevelopment would be complicated by the acquisition of land from up to 22 property owners.

On the south side of I-84, the area between the commercial areas adjacent to the Ten Mile and Meridian interchanges is designated industrial. A small area is designated office on the north side of Overland Road.

South of Overland Road, a Mixed Use - Community designation is provided for a neighborhood center. The balance of the area south of Overland Road is designated Medium Density Residential, which allows single-family homes at densities of three to eight dwelling units per acre. West of Ten Mile Road (beyond the commercial area) the area is designated Low Density Residential, which allows single-family homes at densities of three dwelling units or less per acre.

Impacts

Interchange Impacts Common to All Alternatives

Construction of the proposed interchange will have no direct impact on the regional and local land use and economic development plans.

Specific Impacts by Interchange Alternative

Alternative 1, Standard Diamond

Construction of this design would displace about 5.5 acres of Mixed Use designated area, north of I-84, about 2.25 acres in the NE and NW quadrants. This could result in loss of 20 to 220 residential units, or more likely 75,000 to 100,000 square feet of freeway oriented commercial uses.

SW quadrant, about 2.25 acres of commercial designated area would be displaced. This could result in loss of future freeway oriented commercial uses. However, this area is currently residential.

SE quadrant, about 2.25 acres of commercial designated undeveloped area would be displaced. Remaining land in the area would be of a size and configuration allowing development. Development potential would be enhanced by the interchange.

Alternative 2, Offset Diamond

Construction of this design would displace about 8.6 acres of Mixed Use designated area on the north side of I-84. This could result in loss of 30 to 340 residential units, or more likely 100,000 to 160,000 square feet of freeway oriented commercial uses.

SW quadrant, about 1 acre of commercial designated area would be displaced. As with Alternative 1, the balance of the commercial designated area is currently residential.

SE quadrant, about 10 acres would be displaced and would divide the remaining commercial area into two parcels of about 2.5 and 3.5 acres in size on each side of the new arterial. Smaller parcel size may result in different commercial uses.

Alternative 3, Modified Loop, SE Quadrant

North of I-84, this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of Mixed Use designated area on the north side of I-84, about 2.25 acres in the NE and NW quadrants. The effect on future designated land use would be loss of 20 to 220 residential units, or more likely 75,000 to 100,000 square feet of freeway oriented commercial uses.

SW quadrant, no displacement would occur.

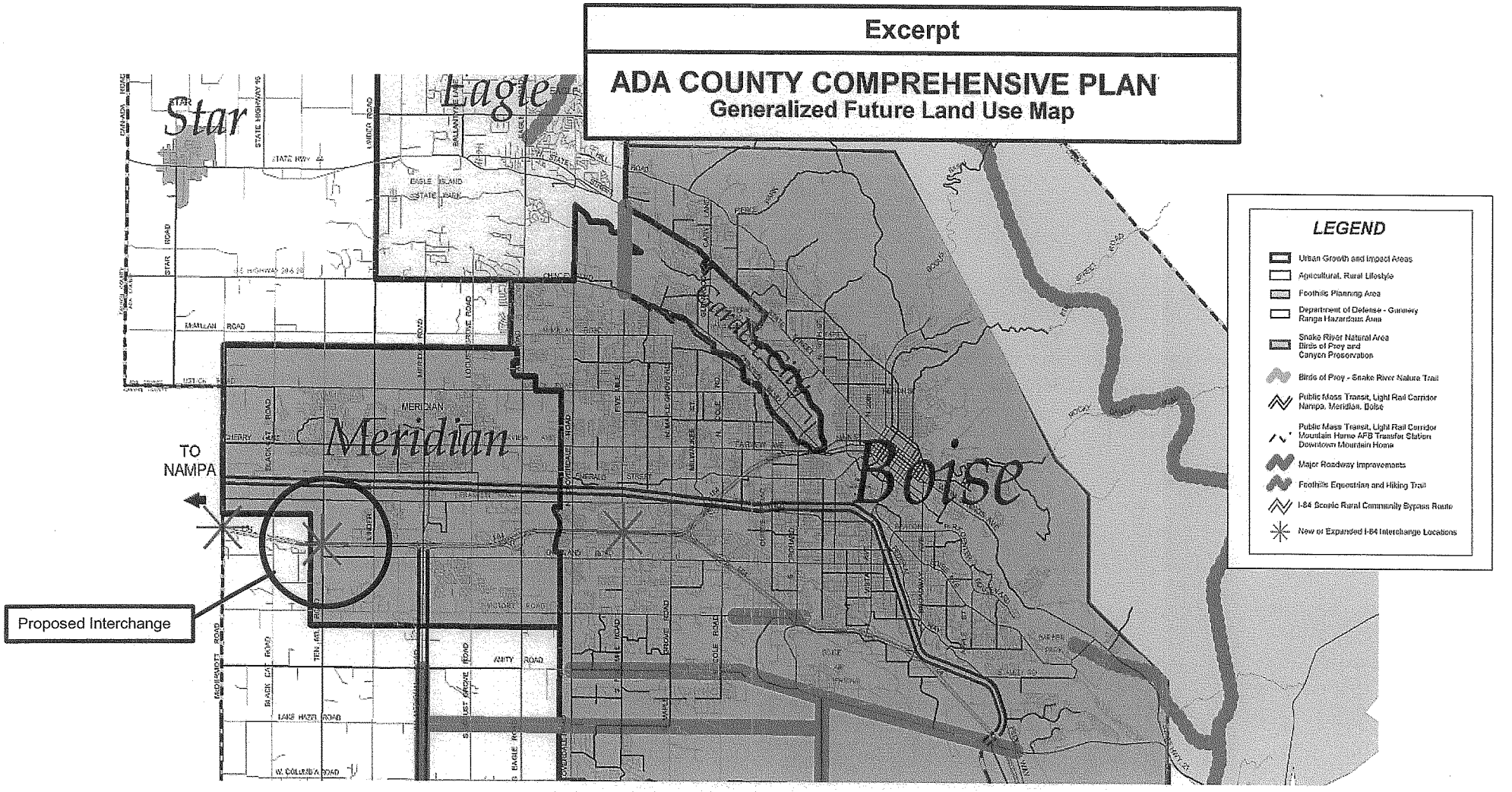


FIGURE 8
TEN MILE INTERCHANGE
ADA COUNTY
COMPREHENSIVE PLAN

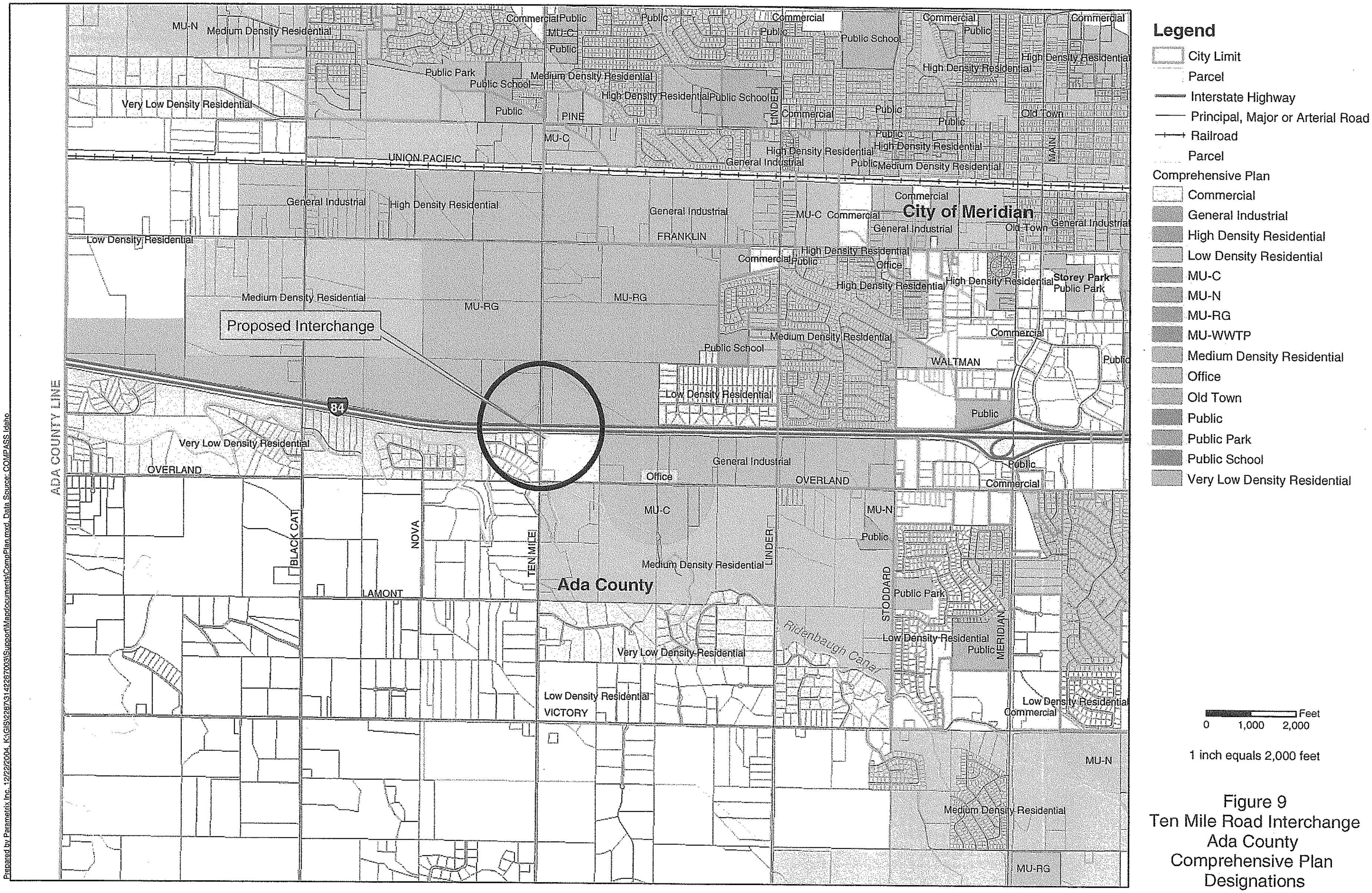


Figure 9
Ten Mile Road Interchange
Ada County
Comprehensive Plan
Designations

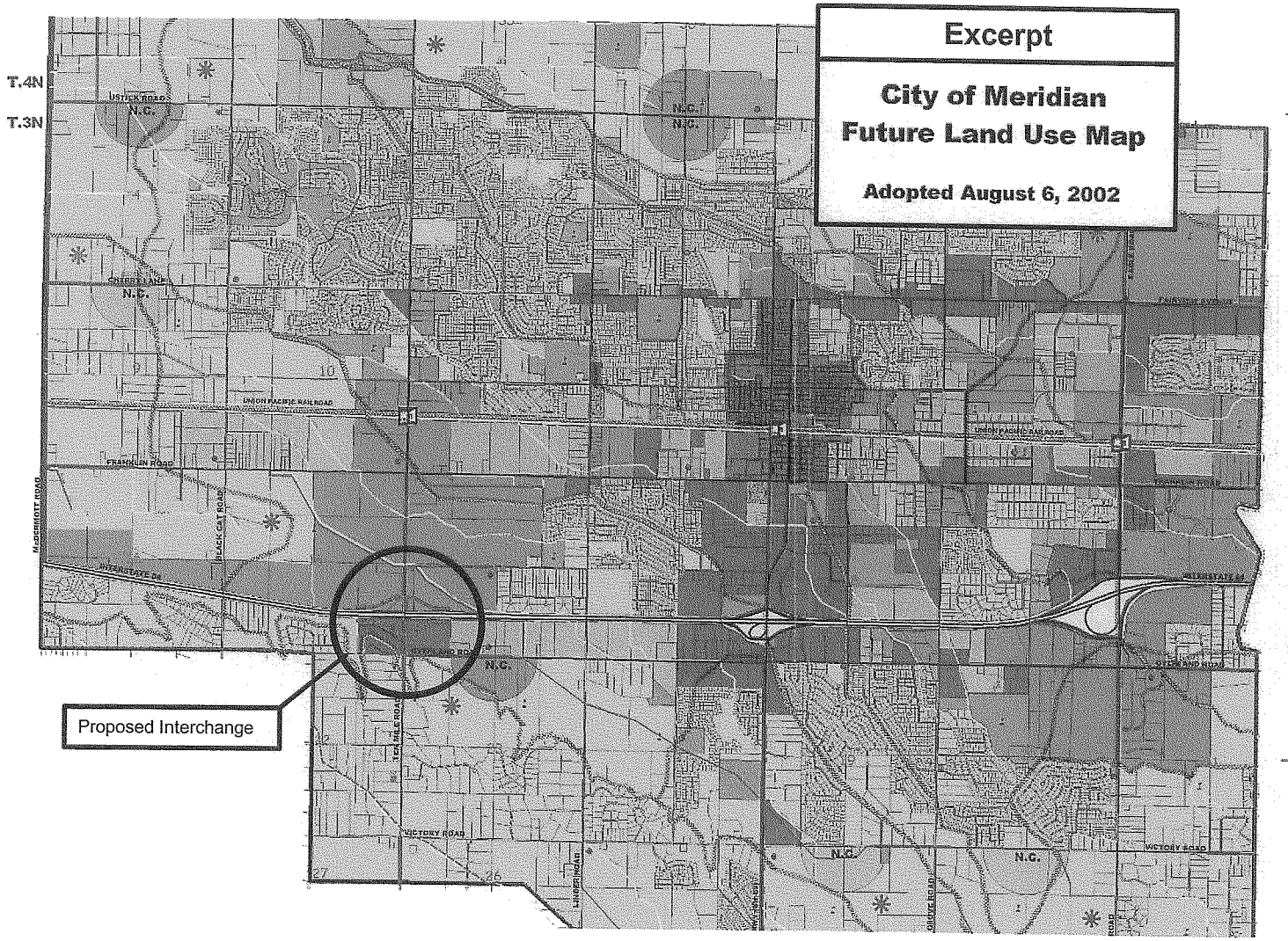


FIGURE 10
TEN MILE INTERCHANGE
CITY OF MERIDIAN
COMPREHENSIVE PLAN

SE quadrant, about 15 acres would be displaced, leaving the remaining 4.5 acre parcel with access only on Overland Road. That would probably preclude freeway oriented development on this parcel, but would accommodate community oriented commercial.

Alternative 4, Modified Loop, SW Quadrant

North of I-84, this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of Mixed Use designated area on the north side of I-84, about 2.25 acres in the NE and NW quadrants. The effect on future designated land use would be loss of 20 to 220 residential units, or more likely 75,000 to 100,000 square feet of freeway oriented commercial uses.

SW quadrant, about 9 acres of commercial designated area would be displaced. The remaining narrow strip between the interchange and the Ridenbaugh Canal would have substantially limited development potential. The existing access road would be displaced and access to the remaining area from Ten Mile road would require a design deviation from the standard for distance separation from the new on-ramp or alternative access from the west, which would involve topographic constraints and access through residential areas.

SE quadrant, the relocation of Overland Road to align with the loop ramp terminus would displace about 1.8 acres of commercial designated area. It also would separate a parcel of about nine acres on the south side of relocated Overland Road. The two parcels would have development potential similar to the existing singe parcel.

Alternative 5, Offset Single Point

Construction of this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of Mixed Use designated area.

SW Quadrant displacement of the area designated for future commercial uses would be displaced. For the area in the SW quadrant, currently residential, future commercial redevelopment would be complicated by the acquisition of land from up to 22 property owners.

Impacts of I-84 Widening

I-84 widening will not displace any adjacent land. Proximity impacts to residentially designated areas may require mitigation such as noise barriers.

Secondary and Cumulative Impacts:

The interchange will contribute to the implementation of the Comprehensive Plan by providing needed transportation infrastructure. The interchange will provide needed capacity for the commercial, industrial and community centers envisioned in the vicinity of Ten Mile Road and I-84. Land displaced by the interchange will not affect the amount of development in the area substantially. Construction of the proposed interchange may displace sufficient area designated commercial in the SW quadrant to limit commercial development intensity due to constraints of access, topography, and the location of the canal embankment.

3.3 Land Use – Zoning Designations

Existing Conditions

Ada County zoning designations currently apply to the area (see Figure 11).

North of I-84, the zoning is RUT, a five acre minimum lot size district allowing a variety of farming uses and limited residential uses.

South of I-84 and east of Ten Mile Road, the zoning is also RUT. West of Ten Mile Road, the zoning is R-1, a single family residential district with a minimum one acre lot size.

City of Meridian zoning will be applied at the time of future annexation.

Impacts

Interchange Impacts Common to All Alternatives

Construction of the proposed interchange would result in loss of about 10 acres of existing rural and residential zoned land. It would have no direct impact on the regional and local land use and economic development plans.

Specific Impacts by Interchange Alternative

Alternative 1, Standard Diamond

Construction of this design would result in the loss of about 5.5 acres of RUT zoned area, about 2.25 acres in each of the NE and NW quadrants. This could result in loss of up to one residential unit, based on existing zoning.

SW quadrant, about 2.25 acres of R-1 zoned area would be displaced. This could result in a theoretical loss of density for 3 residential units and actually displace 4 existing units.

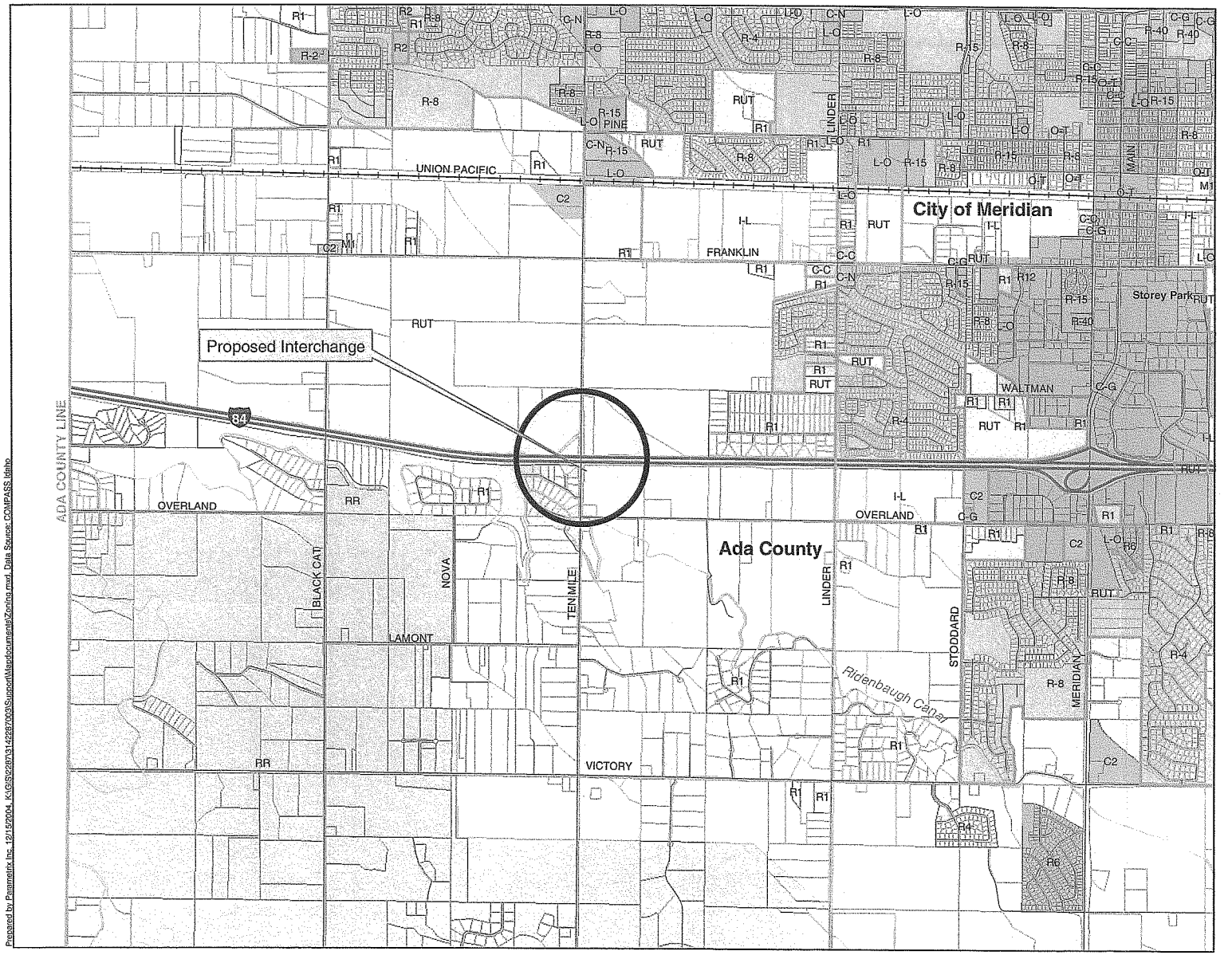
SE quadrant, about 2.25 acres of RUT zoned area would be displaced. This could result in a theoretical loss of density for less than one residential unit.

Alternative 2, Offset Diamond

Construction of this design would displace about 8.6 acres of RUT Mixed Use designated area on the north side of I-84. This could result in loss of up to one residential unit, based on existing zoning.

SW quadrant, about 1 acre of R-1 zoned would be displaced. The loss would occur over several parcels and result in no loss of units.

SE quadrant, about 10 acres would be displaced and would reduce potential density in the RUT zoning by two units.



Legend

- City Limit
- Parcel
- Interstate Highway
- Principal, Major or Arterial Road
- Railroad
- Parcel

Zoning

- C-C
- C-G
- C-N
- C2
- I-L
- L-O
- M1
- O-T
- R-15
- R-2
- R-3
- R-4
- R-40
- R-8
- R1
- R12
- R1M
- R2
- R4
- R6
- RR
- RUT
- T-E

Feet
0 1,000 2,000

1 inch equals 2,000 feet

Figure 11
Ten Mile Road Interchange
Ada County Zoning

Alternative 3, Modified Loop, SE Quadrant

North of I-84, construction of this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of RUT zoned area.

SW quadrant, no displacement would occur.

SE quadrant, about 15 acres would be displaced and would reduce potential density in the RUT zoning by three units.

Alternative 4, Modified Loop, SW Quadrant

Construction of this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of RUT zoned area.

SW quadrant, about 9 acres of R-1 zoned area would be displaced. This would result in loss of 10 existing homes. The existing access road would be displaced and access to the remaining area from Ten Mile Road would require a design deviation from the standard for distance separation from the new on-ramp or alternative access from the west, which would involve topographic constraints and access through residential areas.

SE quadrant, about 1.8 acres of RUT zoned land would be displaced by the realignment of Overland Road to align with the ramp terminus. The relocated road would separate a parcel of about nine acres consisting of the existing farmstead and some cultivated land.

Alternative 5, Offset Single Point

Construction of this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of RUT zoned area.

SW Quadrant, less than 1 acre of R-1 zoned would be displaced. The loss would occur over several parcels and result in no loss of units.

SE quadrant, less than an acre of RUT zoning would be displaced with no loss in development potential under existing zoning.

Impacts of I-84 Widening

I-84 widening will not displace any adjacent land or lead to impacts that would likely lead to a change in land use regulations. Proximity impacts to residentially zoned areas may require mitigation for proximity impacts through noise barriers.

Secondary and Cumulative Impacts:

The interchange will contribute to redevelopment of the area by providing transportation infrastructure. This will result in existing rural zoning being replaced by high intensity zoning to implement the City of Meridian plans.

3.4 Land Use — Existing Development

Existing Conditions

See Aerial Photo in Figure 2.

North of I-84 is agricultural from several miles to the west to a half-mile east of Ten Mile Road. The area further to the east is large lot and suburban residential which extends to the undeveloped commercial area northeast of the Meridian Interchange.

There is an existing farmhouse immediately northwest of the existing Ten Mile Road overpass and an additional farmstead on the east side of the road about 700 feet north of I-84.

South of I-84, farmland extends about a mile and a half east of Ten Mile Road to commercial and other urban development near the Meridian interchange. To the west of Ten Mile Road, single family dwellings on parcels of about an acre are interspersed with farmland and a large gravel quarry. Immediately southwest of the existing overpass is a 22 lot subdivision located between I-84 and the Ridenbaugh Canal.

Impacts

Interchange Impacts Common to All Alternatives

See displacement impacts of individual alternatives. Note that the land and uses displaced are all designated for future mixed-use and commercial use in the City of Meridian Comprehensive Plan.

Specific Impacts by Interchange Alternative

Alternative 1, Standard Diamond

NW quadrant, all of the existing farmstead consisting of a residence and related farm buildings would be displaced, together with about an acre of cropland from the frontage road relocation.

NE quadrant, about 2.25 acres of irrigated cropland would be displaced.

SW quadrant, 3 existing residences would be displaced. Substantial displacement would take place on two additional lots, which might lead to displacement of residences. Remaining residences would be subject to proximity impacts such as noise, discussed below.

SE quadrant, about 2.25 acres of irrigated cropland would be displaced.

Alternative 2, Offset Diamond

NW quadrant, a portion of the existing farmstead would be displaced. The number of buildings affected would depend on the design of slopes from the northbound on-ramp. As a conservative case, the existing residence and related farm buildings could be displaced.

NE quadrant, about 8 acres of irrigated cropland would be displaced together with the existing farmstead.

SW quadrant, 3 existing residences would be displaced. Substantial displacement would take place on two additional lots, which might lead to displacement of residences. Remaining residences would be subject to proximity impacts such as noise, discussed below.

SE quadrant, about 2.25 acres of irrigated cropland would be displaced.

Alternative 3, Modified Loop, SE Quadrant

NW quadrant, impacts would be the same as Alternative 1, all of the existing farmstead would be displaced, together with about an acre of crop land from the frontage road relocation.

NE quadrant, about 2.25 acres of irrigated cropland would be displaced.

SW quadrant, none of the existing residences would be displaced.

SE quadrant, about 10 acres of irrigated cropland would be displaced. The remaining farmland would be in a single contiguous parcel and farming would not be impaired.

Alternative 4, Modified Loop, SW Quadrant

NW quadrant, impacts would be the same as Alternative 1, all of the existing farmstead would be displaced, together with about an acre of crop land from the frontage road relocation.

NE quadrant, about 2.25 acres of irrigated cropland would be displaced.

SW quadrant, 10 current residences would be displaced by the interchange and likely relocation of the existing access road to the remaining homes. The existing access road to the residential subdivision would be displaced by the limited access control from the ramp terminus. A design deviation would be required for a relocated road access to Ten Mile Road, or alternative access from the west would be required.

SE quadrant, the relocation of Overland Road would displace about 1.8 acres of irrigated crop land. It would also leave an isolated cultivated area of about 1.6 acres in size between the existing farmstead and the new road and a triangular cultivated area east of the farmstead of about 1.7 acres. Continued cultivation of these areas may be problematic due to size and configuration.

Alternative 5, Offset Single Point

NW quadrant, impacts would be the same as Alternative 1, all of the existing farmstead would be displaced, together with about an acre of crop land from the frontage road relocation.

NE quadrant, about 2.25 acres of irrigated crop land would be displaced.

SW quadrant, none of the existing residences would be displaced; a small portion of parcels adjacent to the exiting right-of-way would be acquired.

SE quadrant, displacement of cultivated crop land would total less than an acre.

Impacts of I-84 Widening

No displacement impacts.

Secondary and Cumulative Impacts:

The interchange will contribute to the conversion of the existing single family development and farmland in the vicinity of Ten Mile Road by providing transportation infrastructure to accommodate the commercial development called for in regional and local land use plans. The interchange by itself will not produce these impacts, but it will provide the needed infrastructure to allow implementation of the local plans.

3.5 Farmland and Prime Farmland

Existing Conditions

Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. All of the currently farmed lands affected by the project alternatives are prime farmlands when irrigated. All are presently irrigated.

Soils in the immediate vicinity of the interchange are indicated in Figure 12. They consist of Abo Silt Loam, which is capacity class II, when irrigated. Power Silt Loam, located east of the existing overpass, is capability class I when irrigated. Other soils in the area include Purdam Silt Loam with smaller areas of Elijah Silt Loam, Pipeline Silt Loam. The Xerollic Haplargid soils on the terrace slopes adjacent to the Ridenbaugh Canal are the only soils in the area not prime when irrigated. The subdivision in the southwest quadrant of the interchange is not farmed and is therefore not prime farmland, despite being underlain primarily by Abo series soil.

Impacts

Interchange Impacts Common to All Alternatives

See individual alternatives. In assessing the impacts of road projects on farmland in areas designated as part of a city impact area, the Natural Resources Conservation Service (NRCS) policies discount the farmland loss as proceeding from local land use policies rather than the road project.

Specific Impacts by Interchange Alternative

Alternative 1, Standard Diamond

Displacement of existing prime farmland would total about 5.5 acres on the west side of Ten Mile Road on both sides of I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. An area of less than an acre of Power series soils, also prime, would be displaced.

Alternative 2, Offset Diamond

Displacement of existing prime farmland would total about 18 acres on the west side of Ten Mile Road on both sides of I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. An area of about 12 acres of Power and Purdam series soils, also prime farmland, would be displaced.

Alternative 3, Modified Loop, SE Quadrant

Displacement of existing farmland would total about 17 acres on the west side of Ten Mile Road on both sides of I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. An area of Power series soil, also prime farmland, would also be displaced.

Alternative 4, Modified Loop, SW Quadrant

Displacement of existing farmland would total about 2.5 acres on the NE quadrant of Ten Mile Road and I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. The displacement in the SW quadrant would displace an existing residential area, which is not farmland. In the SE quadrant, about 1.8 acres of prime farmland would be displaced by the relocated Overland Road.

Alternative 5, Offset Single Point

Displacement of existing farmland would total about 2.5 acres on the NE quadrant of Ten Mile Road and I-84. The soil type in this area is primarily Abo Silt Loam which is a classified as category IIw for crop production when irrigated and is classified as prime farmland. No displacement of farmland would occur on the south side of I-84.

Although this area is Abo series soils, since it is not farmed, it is not prime farmland.

Impacts of I-84 Widening

No displacement of farmland would occur. The widening would be accommodated within existing right-of-way.

Secondary and Cumulative Impacts:

The interchange will contribute to the conversion of the existing farmland in the vicinity to urban uses by providing transportation infrastructure to accommodate the commercial development called for in regional and local land use plans. The interchange by itself will not produce these impacts, but it will provide the needed infrastructure to allow implementation of the local plans.

3.6 Transportation – Major Arterials

Existing Conditions

Ten Mile Road as well as the east-west W. Franklin Road, and W. Overland Road are all classified by Ada County and the City of Meridian as Minor Arterials as indicated in Figure 13.

Impacts

Interchange Impacts Common to All Alternatives

Construction of the proposed interchange will contribute to the need to widen Ten Mile Road to urban arterial standards to accommodate increased traffic volumes. The Community Planning Association of SW Idaho Transportation Plans (COMPASS 2004a) call for widening the section of Ten Mile Road from Franklin to Ustick by 2009 with the section from Franklin to Overland Road targeted for 2030. The construction of the I-84, Ten Mile Road interchange may require adjustments to target dates for arterial improvements.

US Department of Agriculture, Natural Resources Conservation Service

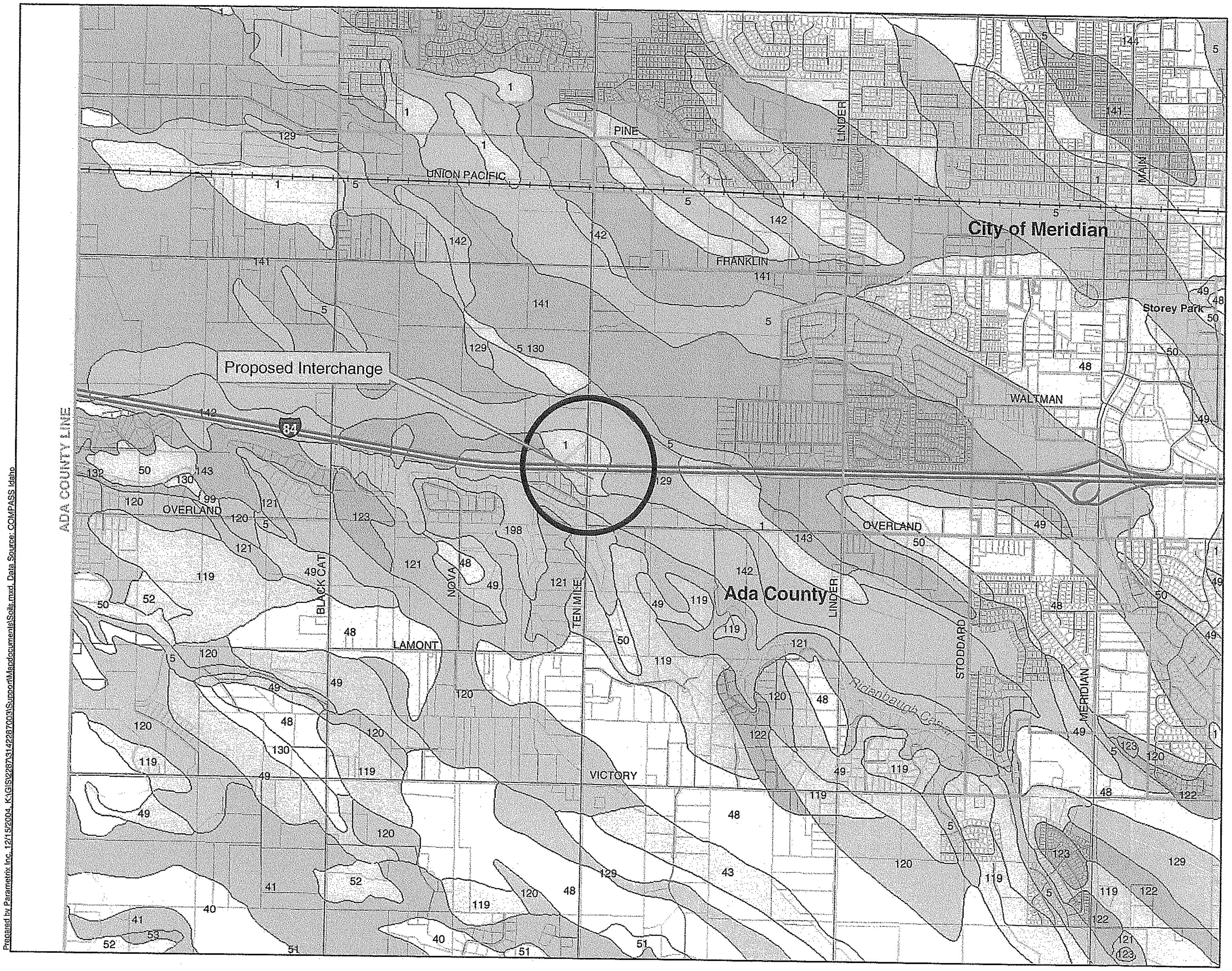
Ada County Area, Idaho

Source: ftp://ftp-fc.sc.egov.usda.gov/MO1/legends_pdf/idaho/id666leg.pdf

Soils in the Vicinity of I-84, Ten Mile Road Interchange

Soil Map Legend

Map Symbol	Soil Name
1	ABO SILT LOAM
2	ADA GRAVELLY SANDY LOAM, 4 TO 15 PERCENT SLOPES
3	ADA GRAVELLY SANDY LOAM, 15 TO 30 PERCENT SLOPES
4	ADA GRAVELLY SANDY LOAM, 30 TO 60 PERCENT SLOPES
5	AERIC HAPLAQUEPTS, NEARLY LEVEL
40	COLTHORP SILT LOAM, 0 TO 2 PERCENT SLOPES
41	COLTHORP SILT LOAM, 2 TO 4 PERCENT SLOPES
42	COLTHORP COBBLY LOAM, 0 TO 2 PERCENT SLOPES
43	COLTHORP COBBLY CLAY LOAM, 2 TO 4 PERCENT SLOPES
44	DAY CLAY, 5 TO 15 PERCENT SLOPES
45	DAY CLAY, 15 TO 30 PERCENT SLOPES
46	DRAX LOAM
47	DRAX-GOOSE CREEK-URBAN LAND COMPLEX
48	ELIJAH SILT LOAM, 0 TO 2 PERCENT SLOPES
49	ELIJAH SILT LOAM, 2 TO 4 PERCENT SLOPES
50	ELIJAH SILT LOAM, 4 TO 8 PERCENT SLOPES
51	ELIJAH SILT LOAM, BEDROCK SUBSTRATUM, 0 TO 2 PERCENT SL OPES
52	ELIJAH SILT LOAM, BEDROCK SUBSTRATUM, 2 TO 4 PERCENT SL OPES
53	ELIJAH SILT LOAM, BEDROCK SUBSTRATUM, 4 TO 8 PERCENT SL OPES
54	ELIJAH-URBAN LAND COMPLEX, 0 TO 2 PERCENT SLOPES
95	LANKBUSH-TENMILE COMPLEX, 0 TO 4 PERCENT SLOPES
96	LANKBUSH-TENMILE COMPLEX, 4 TO 12 PERCENT SLOPES
97	LANKBUSH-TENMILE COMPLEX, 12 TO 20 PERCENT SLOPES
98	LANKBUSH-TENMILE COMPLEX, 35 TO 65 PERCENT SLOPES
99	LANKBUSH-TINDAHAY SANDY LOAMS, 0 TO 2 PERCENT SLOPES
100	LANKBUSH-TINDAHAY SANDY LOAMS, 2 TO 4 PERCENT SLOPES
119	PIPELINE SILT LOAM, 0 TO 2 PERCENT SLOPES
120	PIPELINE SILT LOAM, 2 TO 4 PERCENT SLOPES
121	PIPELINE SILT LOAM, 4 TO 8 PERCENT SLOPES
122	PIPELINE SILT LOAM, 8 TO 12 PERCENT SLOPES
123	PITS, GRAVEL
129	POWER SILT LOAM, 0 TO 2 PERCENT SLOPES
130	POWER SILT LOAM, 2 TO 4 PERCENT SLOPES
131	POWER SILT LOAM, 4 TO 8 PERCENT SLOPES
132	POWER SILT LOAM, 8 TO 12 PERCENT SLOPES
141	PURDAM SILT LOAM, 0 TO 2 PERCENT SLOPES
142	PURDAM SILT LOAM, 2 TO 4 PERCENT SLOPES
143	PURDAM SILT LOAM, 4 TO 8 PERCENT SLOPES
144	PURDAM-POWER SILT LOAMS, 0 TO 2 PERCENT SLOPES
145	PURDAM-POWER SILT LOAMS, 2 TO 4 PERCENT SLOPES
146	PURDAM-POWER SILT LOAMS, 4 TO 8 PERCENT SLOPES
147	PURDAM-POWER-URBAN LAND COMPLEX, 0 TO 2 PERCENT
198	XEROLLIC HAPLARGIDS, VERY STEEP



Prepared by Parametrix Inc. 12/15/2004, K:\GIS\2287\3142287003\Support\Mapdocuments\Soils.mxd, Data Source: COMPASS Idaho

Legend

- City Limit
- Parcel
- Road
- Interstate Highway
- Principal, Major or Arterial Road
- Railroad
- Soils

Feet: 0, 1,000, 2,000

1 inch equals 2,000 feet

Figure 12
Ten Mile Road Interchange
Soils

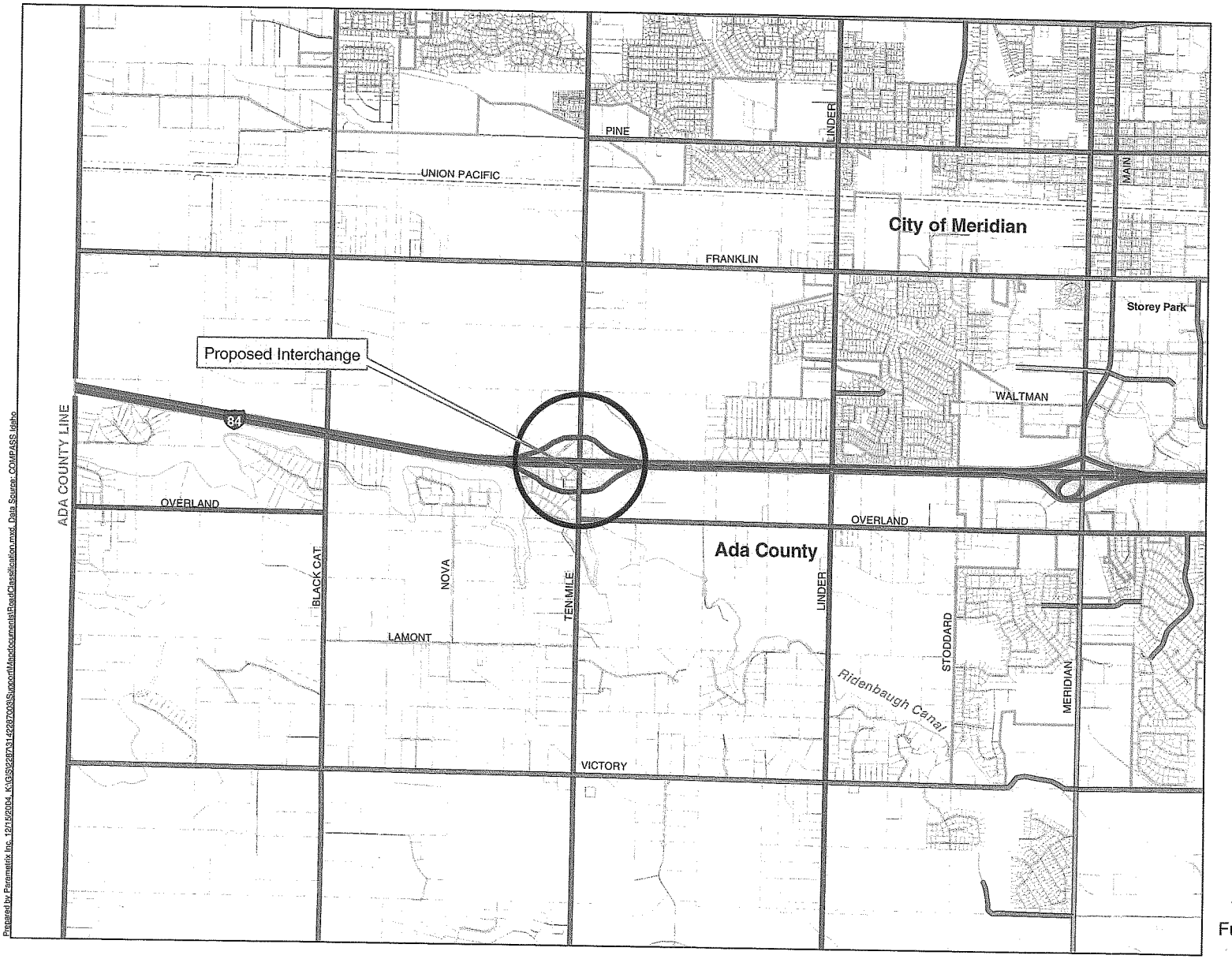


Figure 13
Ten Mile Road Interchange
Functional Road Classification

Impacts of I-84 Widening

I-84 widening to three lanes will not directly affect local roads.

Secondary and Cumulative Impacts

The interchange will contribute needed infrastructure to accommodate regional and local land use plans that will contribute to local traffic demands and require improvements to a variety of local arterials. The interchange by itself will not produce these impacts, but it will provide the infrastructure to allow implementation of the local plans.

3.7 Transportation – Interstate Highways

Existing Conditions

Interstate 84 is the only limited access highway in the vicinity. It is currently two lanes in each direction. The lane widths are 12 feet with 9 foot shoulder widths. The COMPASS and Ada County Transportation Plans provide for widening to three lanes in each direction, pursuant to the I-84 corridor study adopted by the COMPASS board in 2001. The ITD has not yet programmed funding in the 2004 to 2008 Statewide Transportation Improvement Plan.

Impacts

Interchange Impacts Common to All Alternatives

Construction of the proposed interchange will implement regional transportation plans and provide needed transportation capacity to serve the land use plans of local jurisdictions.

The interchange alternatives do not represent a difference in impacts on operation of the freeway mainline.

Impacts of I-84 Widening

I-84 widening to three lanes will implement regional transportation plans and provide needed transportation capacity to serve the land use plans of local jurisdictions.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans that will result in additional demand on all elements of the traffic circulation system, including I-84. The interchange by itself will not produce these impacts, but it will provide the infrastructure to allow implementation of the local plans

3.8 Transportation – Railroad Lines

Existing Conditions

The Union Pacific Railroad mainline crosses Ten Mile Road one and a quarter miles north of I-84 between Franklin Road and Cherry Lane. This rail line provides local service as well as interstate connections between Pacific Ocean ports at Portland and Seattle to Midwest destinations.

Impacts

Interchange Impacts Common to All Alternatives

Construction of the proposed interchange will require widening of Ten Mile Road to urban arterial standards. The existing railroad crossing will need to be updated. The potential for rail/vehicle conflicts will increase somewhat due to higher traffic volumes. The potential for rail and vehicular traffic to conflict with movement of either mode will increase slightly.

Impacts of I-84 Widening

I-84 widening to three lanes will not directly affect railroad use or operation.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans that will result in additional conflicts between vehicles and railroad traffic at crossings. The interchange by itself will not produce these impacts, but it will provide the infrastructure to allow implementation of the local plans.

3.9 Transportation – Pedestrian and Bicycle Facilities

Existing Conditions

No separate pedestrian or bicycle facilities are provided on Ten Mile Road or other streets in the vicinity. Shoulder widths are limited to about one foot of pavement outside the fog stripe. In most cases, an unpaved moderately sloping shoulder extends about 4 feet outside of the fog line to the crest of the roadside ditch. The shoulder width on the grade-separated bridge on Ten Mile is approximately 3 feet from the fog line to the concrete curbing and rail supports. COMPASS adopted the pathway in the "Ridge-to-Rivers Pathway Plan". A multiple-use path is designated along the Ridenbaugh Canal about one quarter mile south of the proposed interchange. Multiple use paths consist of facilities separated from the road right-of-way for the purpose of both recreation and non-motorized transportation. Ten Mile Road is designated in the City of Meridian Comprehensive Plan for development of both on-street pathways/detached sidewalks and on-street bikeways.

Local plans provide for development of both on-street pathways/detached sidewalks and on-street bikeways.

Impacts

Interchange Impacts Common to All Alternatives

Construction of the proposed interchange will not directly affect pedestrian circulation. The pedestrian crossing facilities on the overpass can be expected to be upgraded. Future widening of Ten Mile Road to urban arterial standards will incorporate pedestrian facilities. The interchange will result in a net improvement in pedestrian facilities on Ten Mile Road in the short term.

Impacts of I-84 Widening

I-84 widening to three lanes in each direction will not directly affect pedestrian circulation.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans. Plans include long term enhancement of pedestrian circulation to serve urban uses. The interchange by itself will not produce these impacts, but it will provide the infrastructure to allow implementation of the local plans

3.10 Transportation – Pedestrian and Bicycle Hazards

Existing Conditions

The lack of shoulders or other pedestrian facilities in the vicinity is a potential source of current pedestrian-vehicle and pedestrian-bicycle conflict.

Impacts

Interchange Impacts Common to All Alternatives

The pedestrian crossing facilities on the overpass can be expected to be upgraded as part of the project and will result in an increase in pedestrian safety in the immediate vicinity.

Impacts of I-84 Widening

I-84 widening to three lanes will not directly affect pedestrian safety.

Secondary and Cumulative Impacts

The long term effects on pedestrian safety depend largely on whether future pedestrian improvements to Ten Mile Road and other roadways occurs prior to a major increase in pedestrian demand due to development. The interchange by itself will not produce these impacts, but it will provide the infrastructure to allow implementation of the local land use plans that will increase pedestrian volumes.

3.11 Transportation – Public Transportation

Existing Conditions

No bus or other transit service is currently provided in the vicinity of the proposed interchange. The nearest transit service is provided by the Treasure Valley Metro, which provides express bus service between Nampa, Meridian and Boise during peak commute periods. The closest stop to the site is at the Overland Park and Ride near the intersection of Meridian and Overland Streets south of I-84, about two miles east of the proposed interchange. Express bus service to Nampa is routed on I-84 but makes no stops between Meridian and the Mercy North Medical Center in Nampa.

Impacts

Interchange Impacts Common to All Alternatives

Construction of the proposed interchange has the potential to allow existing bus routes to serve local demand. This could take a number of forms ranging from a "freeway flyer stop" on interchange ramps, to bus circulation into park and ride facilities close to I-84, to bus routes that circulate to local activity centers.

Impacts of I-84 Widening

I-84 widening to three lanes will indirectly enhance transit service by providing for effective vehicular movement. The current proposal is for general purpose lanes that would not directly benefit transit.

Secondary and Cumulative Impacts

The interchange will contribute needed infrastructure to accommodate regional and local land use plans that target this area for additional development. The location of the interchange near high intensity use may create a demand for additional transit service. The interchange by itself will not produce these impacts, but it will provide the infrastructure to allow implementation of the local land use plans.

3.12 Utilities - Public Water Systems, Public Sewer Systems

The proposed interchange and vicinity is within the City of Meridian water and sewer service area and provision for service is provided in the Comprehensive Plan and Service Plans. No public water supply facilities or sewer facilities are currently present in the area.

3.13 Utilities - Natural Gas Transmission

A Northwest Natural Gas transmission pipeline crosses I-84 on diagonal about a quarter mile east of Ten Mile Road, with a crossing of Ten Mile Road about a quarter mile south of I-84. See Figure 14.

Impacts

Interchange Impacts Common to All Alternatives

The interchange and I-84 widening are not expected to affect this pipeline, provided adequate design and construction safeguards are taken. There is little difference in impacts between the alternatives. The Alternative 2 transition back to Ten Mile Road may be in the vicinity of the pipeline.

Impacts of I-84 Widening

I-84 widening will have little or no impact on the existing pipeline crossing of the right-of-way.

3.14 Public Facilities - Public Parks

Existing Conditions

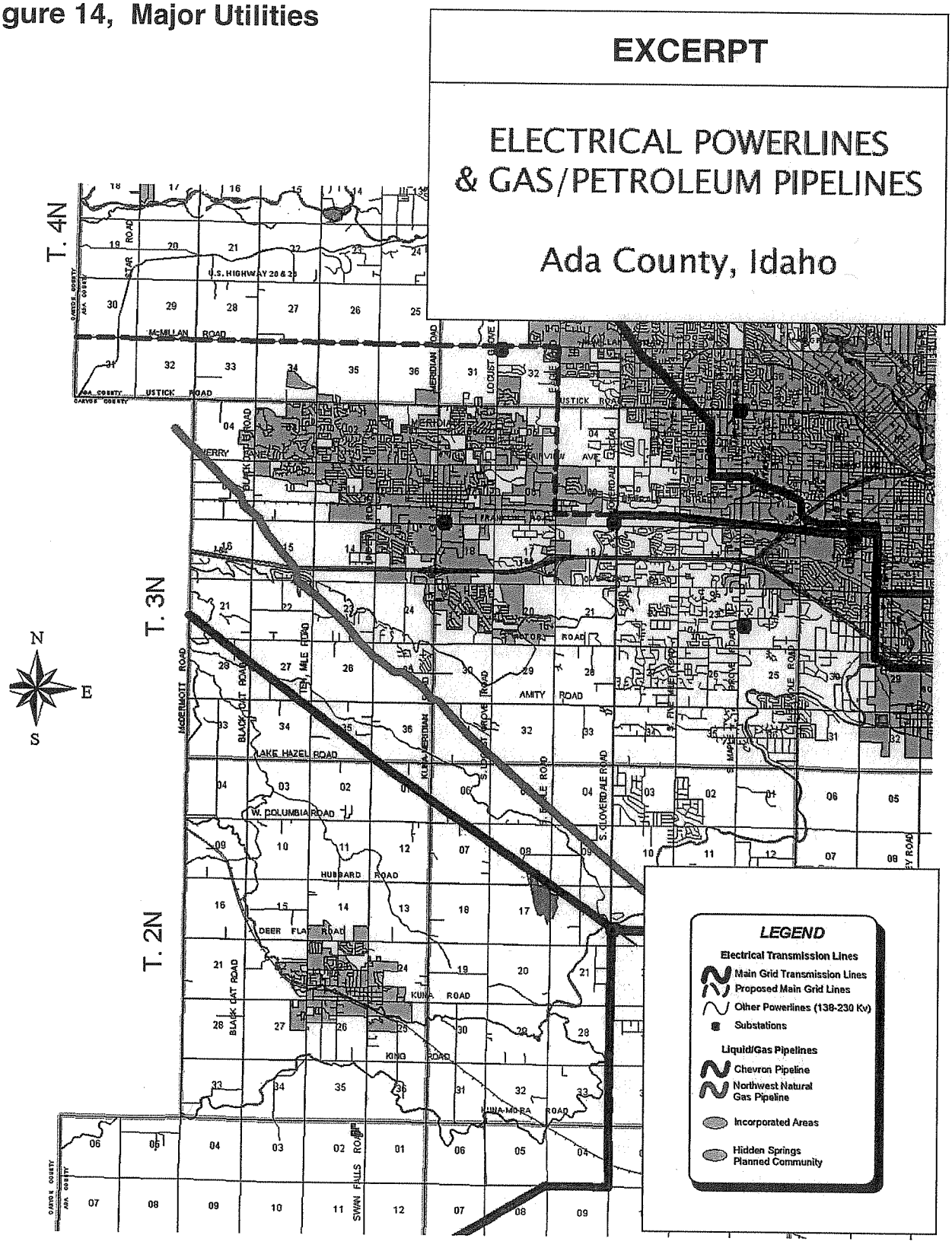
There are no parks in the vicinity of the proposed interchange. The nearest park land is the Bear Creek Park site approximately 1.5 miles east of Ten Mile Road located south of Overland Road. This 18 acre site is developed primarily for sport fields as part of the 326 lot Bear Creek Subdivision. See Figure 15.

Impacts

Interchange Impacts Common to All Alternatives

The project will affect no existing or planned public parks, recreation facilities, national forests or national wildlife refuges.

Figure 14, Major Utilities



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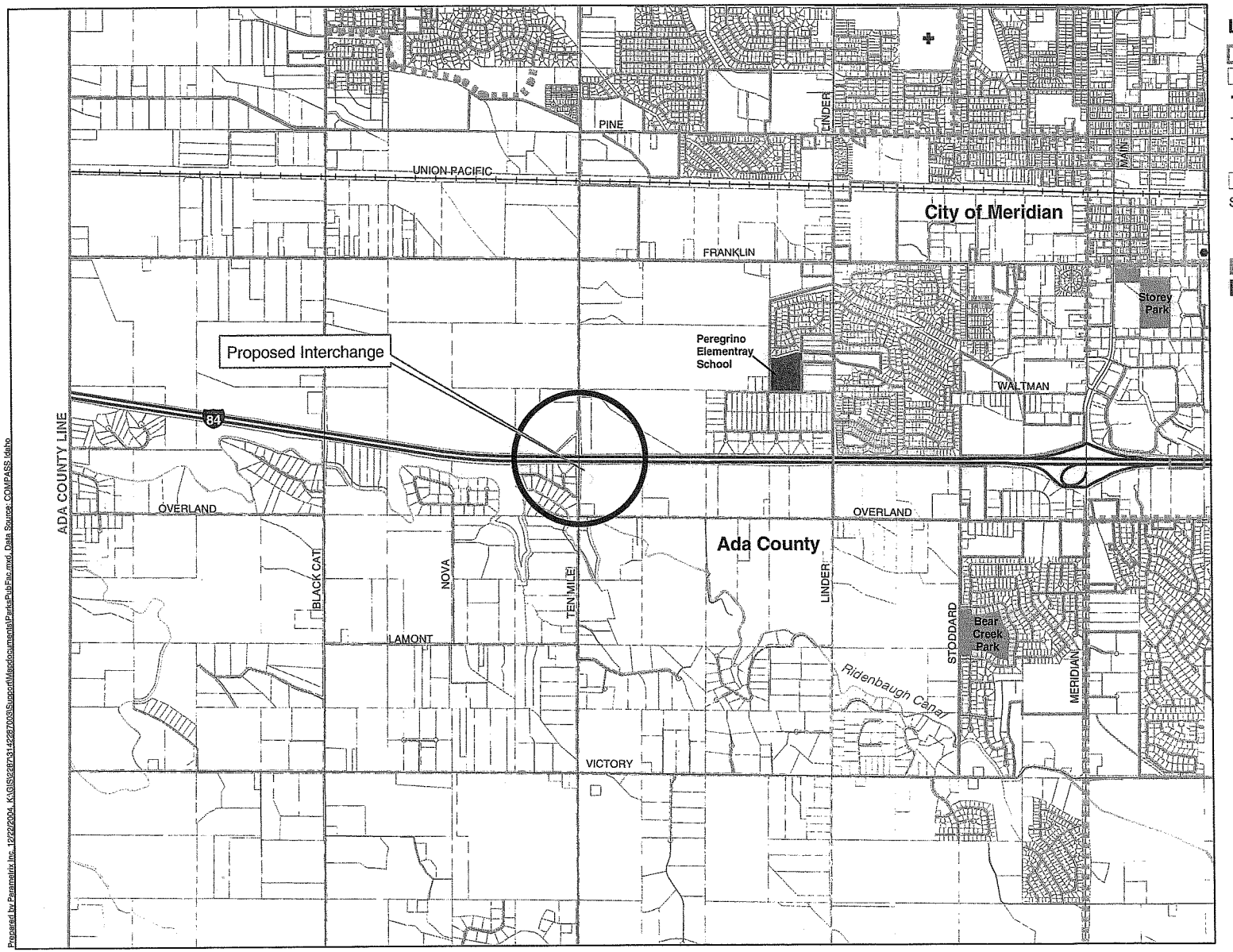


Figure 15
Ten Mile Road Interchange
Parks, Public Facilities,
and Existing Bikeways

Impacts of I-84 Widening

I-84 widening between Meridian and Ten Mile Road will affect no existing or planned public parks, recreation facilities, national forests or national wildlife refuges.

Secondary and Cumulative Impacts:

The interchange and I-84 widening will not affect the demand for parks, but may change the rate of growth and the time when enhanced facilities are needed.

3.15 Public Facilities – Schools

Existing Conditions

The nearest school to the proposed interchange is the Peregrine Elementary School north of I-84 about 3/4 mile east of Ten Mile Road and about 1,300 feet north of I-84. On the south side of I-84, the nearest school is McPherson Elementary on Amity Road about two miles south of the proposed interchange. See Figure 15

Impacts

Interchange Impacts Common to All Alternatives

The interchange alternatives will not displace school sites or produce proximity impacts such as noise.

Impacts of I-84 Widening

I-84 widening will not displace school sites. Peregrine Elementary School is distant enough from the roadway to avoid noise or other proximity impacts.

Secondary and Cumulative Impacts

The interchange and I-84 widening will not affect schools, but may change the rate of growth and the time when enhanced facilities are needed.

3.16 Public Services – Police

Police service is currently provided by the Ada County Sheriff.

Impacts

Secondary and Cumulative Impacts:

The interchange and I-84 widening will not directly affect police service, but may change the rate of growth and the time when enhanced levels of service are needed. There is no difference in impacts between the alternatives.

3.17 Public Services – Irrigation District

Existing Conditions

The area is served by the Nampa Meridian Irrigation District through a series of canals through the area. The district serves both about 64,000 acres of farmland in Ada and Canyon Counties and 9,000 residential and commercial customers.

Impacts

Secondary and Cumulative Impacts:

The interchange and I-84 widening will not affect the demand for irrigation water or related facilities and will not require alteration of existing facilities in a manner that would affect the delivery of irrigation services.

The interchange will contribute infrastructure to accommodate regional and local land use plans that will lead to a change in use of irrigation water in the area from farming to use on urban ornamental vegetation.

Potential future crossings of canals is addressed below under Surface Water - Irrigation canals.

3.18 Population Characteristics/Environmental Justice

Existing Conditions

Minority or low income populations that are subject to environmental justice or non-discrimination policies have not been identified in the vicinity based on census data, as indicated in Table 3-1.

Information from the 2000 census is reported in Table 3-1. Available data indicates that the population within about half a mile of the proposed interchange was well below 1 percent non-white. Income information is not available at the census block level and therefore can't be isolated for the immediate vicinity. Data for the nearest census tracts indicates that 3 to 4 percent of the population are below the poverty level, which is well below the state average of 12 percent and the Boise Metropolitan Area average of 9 percent. An indirect indication of income available at the block level is tenure. Of the total housing units, 88 percent were reported to be owner occupied which indicates that a substantial low income population is unlikely.

Table 3-1. Population Characteristics

Area	NW Quadrant Tract 1003.10 Blocks 1221, 1222, 1223	NE Quadrant Tract 1003.10 locks 1218, 1219, 1229, 1230,	SW Quadrant Tract 1003.13 Bocks 1006, 1007, 1008, 1010, 1011	SE Quadrant Tract 1003.13 locks 1005, 1013, 1015, 1016	Census Tract 103.10 Block Gr 1	Census Tract 103.13 Block Gr 1
Total Population	18	51	220	40	11,564	3,275
Total Households	10	10	67	15	3,734	1,053
Nonwhite population	1	0	1	2	572	203
Owner Occupied Households	6	7	65	12	349	110
Median Family Income	NA	NA	NA	NA	$62,780	$61,747
Households Below Poverty Level	NA	NA	NA	NA	147	28
Percent of Households Below Poverty Level	NA	NA	NA	NA	4 %	3 %

Source: US Census, 2000 http://factfinder.census.gov

Impacts

The interchange and I-84 widening will not affect result in disproportionate impacts on minorities or low income populations, based on existing census information. Additional more detailed assessment of existing residential units displaced will be required at project environmental review. There is no difference in impacts between the alternatives.

3.19 Cultural – Archaeological and Historic Resources

Existing Conditions

No archaeological sites pre-dating European settlement are known in the vicinity. The landscape has been substantially altered by farming and other settlement patterns. The location on upper terraces is not typical habitual settlement or food gathering environment for native populations and has a low probability of artifact presence.

There are no sites listed on the National Register of Historic Places (NRHP) in the project vicinity.

No historic or archaeological resources are identified in the vicinity by the Idaho State Historical Society, the State Historic Preservation Officer.

The Ada County Historic Preservation Council has designated four sites in the vicinity, 231, 232, 233, and 234. See Appendix A. All the sites are related to the establishment and history of farming in the area and consist of old homes or barns. All are described by the historic preservation council as "contributing", rather than eligible for the NRHP. In the absence of a Historic District, the criteria used by the county preservation council relates to contributing to the historic understanding of the county, rather than contributing to the integrity of a designated historic district. Site 231 is a former dairy and is well to the west and south of both the interchange and I-84 widening. Site 234 is in a residential subdivision and appears to be the original home site for the farm that existed prior to subdivision. Sites 232 and 233 consist of a house and barn in the farmstead adjacent to Overland Road.

The Ridenbaugh Canal south of I-84 is potentially eligible for the National Register because of its association with the settlement and agricultural development of the area.

Impacts

Interchange Impacts Common to All Alternatives

All alignments have been designed to avoid potential historic places. The alternatives have different potential impacts discussed separately below.

Specific Impacts by Interchange Alternative

Alternative 1, Standard Diamond

This alignment has no impacts on historic structures or other resources. Sites 232, 233 and 234 are about 450 feet from ramp termini. Residential buildings displaced in the southwest quadrant are generally not older than 50 years. The farmstead displaced in the northwest quadrant, is not known to have special historical associations and is not identified as such by any historic inventory.

Alternative 2, Offset Diamond

The re-alignment of Ten Mile Road avoids sites 232 and 233. The roadway is about 120 feet from Site 232 with the edge of fill about 30 feet away. Buildings displaced in the SW quadrant are generally not older than 50 years. The farmstead in the NW quadrant can be preserved, although it is likely to be displaced by development of the land in the future.

There would be three crossings of the Ridenbaugh Canal with this alternative. Road crossings are not considered to compromise the historic integrity of the canal because road crossings are a common and integral feature of the canal, since its inception and road crossings do not change the historical association of the can with the settlement and agricultural development of the area.

Alternative 3, Modified Loop, SE Quadrant

This alignment avoids all existing structures, except the farmstead in the NW quadrant that is not known to have special historical associations. The loop ramp is within 100 feet of Sites 232 and 233.

Alternative 4, Modified Loop, SW Quadrant

This alignment primarily impacts residences in the SW quadrant that are generally not older than 50 years. The building on Site 234 is within 150 feet of the ramps. If a realigned access roadway to the SW quadrant is allowed from Ten Mile Road, it could displace the building, depending on location. The farmstead displaced in the NW quadrant is not known to have historical associations. In the SE quadrant, the relocation of Overland Road would not displace sites 232 and 233, which are about 100 feet south of the new roadway.

Alternative 5, Offset Single Point

This alignment has no impacts on historic structures or other resources. The only building displaced is the farmstead in the NW quadrant, is not known to have special historical associations. Ramps on the sough side of I-84 are more than 1,000 feet from Sites 233 and 234.

Impacts of I-84 Widening

I-84 widening to three lanes will not require additional right-of-way and will not affect historic resources.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans that will lead to a change of use of sites in the vicinity. Existing buildings on those sites that may have historic associations are likely to be displaced, in the absence of specific historic preservation requirements of the City of Meridian, which will have jurisdiction over future development.

3.20 Visual Resources

Existing Conditions

Views from I-84 for drivers in vehicles are characterized by two elements: the linear views down the highway and the framing views on each side. The existing Ten Mile Road overcrossing is a minor interruption of the view down the road for motorists and is likely accepted as a normal and integral part of the travel experience. There are no notable landmarks in the field of view of motorists. Framing views

are largely of agricultural uses to the north and a mix of agricultural and residential uses to the south. The major topographic feature in the area is the natural terrace to the south and the mountains in the distance to the east.

The view of the road is primarily from existing single-family residential dwellings on the terrace to the southwest of I-84 and overlook both the road and the primarily agricultural area to the north. The I-84 roadway and the existing interchange are near elements of the views to the north. The visual focus of views to the north are the mountains in the distance which provide the major visual amenity.

Impacts

Interchange Impacts Common to All Alternatives

Views from I-84 in the vicinity of the interchange will change little. The existing overpass will be replaced by a structure that is wider and configured differently, but is likely to be perceived by drivers and passengers as a typical freeway facility. The addition of ramps for the interchange will likewise be perceived as a normal highway facility. The uses framing the highway will change over time as a result of land use changes governed by local plans and zoning. The geographic setting and the lack of notable landmarks will not change.

Minor variations in views are discussed for each alternative.

The view of the road is from existing single-family residential dwellings and will be altered little by widening of the overcrossing and installation of ramps. The interchange will be an element in near views. The visual focus of views will remain the mountains in the distance.

Specific Impacts by Interchange Alternative

Alternative 1, Standard Diamond

Views from I-84 in the vicinity of the interchange will likely be perceived as a typical freeway facility. The geographic setting and the lack of notable landmarks will not change as a result of this alternative.

The view of the road from existing single-family residential dwellings will be altered little by widening of the overcrossing and installation of ramps. The interchange will be an element in near views. The visual focus of views will remain the mountains in the distance.

Alternative 2, Offset Diamond

Views from I-84 in the vicinity of the interchange will likely be perceived as a typical freeway facility with loop ramps. The framing views will change little.

The view of the road from existing single-family residential dwellings will be altered slightly by size of the loop ramp which will be an element in near views. The visual focus of views will remain the mountains in the distance.

Alternative 3, Modified Loop, SE Quadrant

Views from I-84 in the vicinity of the interchange will likely be perceived as a typical freeway facility. The framing views will change little.

The view of the road from existing single-family residential dwellings will be altered by the relocation to the west and the grades required to cross the Ridenbaugh canal. The visual focus of views will remain the mountains in the distance.

Alternative 4, Modified Loop, SW Quadrant

Views from I-84 in the vicinity of the interchange will likely be perceived as a typical freeway facility with loop ramps. The framing views will change little.

The view of the road from existing single-family residential dwellings will be altered for those remaining in the SW quadrant by the close proximity of the loop ramp. For residences at a greater distance the ramps will be an element in near views. The visual focus will remain distant mountains.

Alternative 5, Offset Single Point

Views from I-84 in the vicinity of the interchange will likely be perceived as a somewhat atypical freeway facility because of overcrossings. The framing views will change little.

The view of the road from existing single-family residential dwellings will include much more prominent overcrossings in near views. The visual focus will remain distant mountains.

Impacts of I-84 Widening

Widening of I-84 will have little impact on views from and toward the road. The three lane character of the widened freeway will be seen as part of a continuous three lane corridor that currently exists to the east.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans that will lead to a change of use of sites in the vicinity. The visual character of the surrounding area will change from farmland and low density residential use to high intensity urban uses.

3.21 Noise

Existing Conditions

Noise sources in the area are largely from I-84 traffic noise, noise from farming, and noise from quarry operation. Noise levels 30 feet from the right-of-way southwest of the existing overcrossing in the residential subdivision were measured at 77 decibels.

Impacts

Interchange Impacts Common to All Alternatives

Operation will affect local uses by providing ramps closer to potential receptors and also by introducing vehicle starting, stopping and acceleration. This is most affected by the proportion of heavy trucks using the interchange, which also may be affected by heavy trucks from the quarry to the southwest. Sensitive receptors are present only to the immediate southwest of the interchange site where there is existing single family development. This area is designated by the City of Meridian for future commercial use. Impacts to the residential uses may be avoided if the area transitions to commercial use in conjunction with

interchange construction. Mitigation measures such as noise barriers will reduce noise levels by 10 to 15 dB up to approximately 200 feet from a highway. A detailed noise analysis may be required for project environmental review.

The potential impacts on specific sensitive noise receptors is discussed separately for each alternative.

Specific Impacts by Interchange Alternative

Alternative 1, Standard Diamond

Primary noise impact is to existing residential uses to the southwest of the site. Two existing residences will be within 100 feet of the new ramps, with an additional 3 residences within 200 feet. Mitigation measures such as noise barriers may be effective in reducing noise close to existing levels. Noise impacts to the north and southeast will not require mitigation because of the future mixed use, commercial and industrial uses designated for these areas.

Alternative 2, Offset Diamond

Shifting Ten Mile Road and the interchange to the east will place the primary impact on current farmland designated for future industrial use. There will be minor increases in noise from the eastbound off-ramp near existing residences that may be mitigated by noise barriers. The relocation of Ten Mile Road to the east also would reduce noise impacts to the existing residential area from vehicles on the arterial.

Alternative 3, Modified Loop, SE Quadrant

The interchange loop off-ramp to the east of Ten Mile Road will place the primary impact on current farmland designated for future industrial use. The existing residences southeast of Ten Mile Road would experience noise impacts from the intersection of the ramps with Ten Mile Road and also higher traffic volumes on that local arterial.

Alternative 4, Modified Loop, SW Quadrant

The interchange off-ramp and loop on-ramp in the southwest quadrant and relocation of the existing local road would place ramps within 100 feet of two remaining residences and within 200 feet of 4 remaining residences. The total residences subject to noise impacts would be reduced by displacement of 10 to 12 residences. Noise barriers would be effective mitigation for the majority of remaining residences.

Alternative 5, Offset Single Point

Shifting the interchange to the north would place ramps further from the residences to the southwest, but would result in higher overpass structures which result in noise carrying further and would not allow effective noise barrier mitigation. Resulting impacts on the residential area to the southwest would result in noise impacts to a greater number of residences.

Impacts of I-84 Widening

I-84 widening will increase noise levels slightly, proportional to traffic increases. Noise barriers are likely to be incorporated where the right-of-way is adjacent to existing or planned residential use.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans that will lead to a change of use of sites in the vicinity. The noise levels in the surrounding area will change from being dominated by the freeway as the major single source of noise to a variety of noise sources from commercial and industrial uses as well as from traffic on local arterials.

3.22 Air Quality

Existing Conditions

Ada County experienced frequent violations of the national air quality standards in the 1970s that resulted in the Environmental Protection Agency (EPA) designation of the area as a nonattainment area. Ada County has not experienced any violations of the national standards for CO since 1986. The Limited Maintenance Plan and Request for Redesignation to Attainment for Carbon Monoxide was approved in December 2002. Northern Ada County was designated as a PM10 nonattainment area in 1991. On March 12, 1999, the Environmental Protection Agency (EPA) revoked the Northern Ada County's PM10 nonattainment designation and in September of 2003, the EPA approved the Northern Ada County PM 10 SIP Maintenance Plan and Redesignation. Thus, Northern Ada County is currently a maintenance area in attainment of the PM 10 NAAQS.

Impacts

Amendments to the Federal Clean Air Act (CAA) mandate that any future transportation projects that use federal funds and/or are deemed to be "regionally significant" in nonattainment and maintenance areas cannot contribute to a degradation of air quality (40CFR93). Thus, transportation plans must "conform" to air quality plans. Transportation conformity is demonstrated when a nonattainment or maintenance area can show, within the applicable guidelines and regulations, that planned transportation projects listed in a transportation program or plan will not cause or contribute to exceedances of the Environmental Protection Agency's health based air quality standards.

The Community Planning Association of Southwest Idaho (COMPASS 2004b) conducted an air quality planning analysis for the FY2005-2009 Transportation Improvement Program (TIP). The analysis showed minor increases in forecasted "build" CO emissions when compared to the "no-build" scenarios. However, these increases are well below the CO emission forecasts in the Limited Maintenance Plan and Request for Redesignation to Attainment for the Northern Ada County Carbon Monoxide Not-Classified Nonattainment Area and the Northern Ada County PM10 SIP Maintenance Plan and Redesignation Request.

The Ten Mile Road interchange with I-84 is contained in the COMPASS Destination 2030 Limited Plan Update and the FY2005-2009 Transportation Improvement Program (TIP) as project No. 24. Widening of I-84 is project 11. Both projects are therefore in compliance with air quality plans.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans that will lead to a change of use of sites in the vicinity. The overall increase in traffic generation will result in an increase in air emissions from mobile sources. In addition, commercial and industrial uses in the vicinity are likely to provide stationary sources of emissions.

3.23 Hazardous Waste Sites

Existing Conditions

A reconnaissance survey of the area has revealed no sites that are likely to have been associated with past uses of hazardous waste.

Impacts

Hazardous materials are unlikely to be encountered during construction.

The interchange and I-84 widening will require site specific hazardous materials assessment at the environmental review stage. If hazardous materials are encountered during construction, a response plan should assure cleanup or on-site stabilization. There is no current information that would provide a bias for differentiating impacts between the alternatives.

Spill of fuel and chemicals are a risk during construction that are addressed in construction specifications.

3.24 Energy Resources

Existing Conditions

Energy consumption in the area is related primarily to vehicle use on I-84 and use for farming and residential uses.

Impacts

The interchange and I-84 widening will require site specific assessment of energy use at the environmental review stage. Impacts on the use of energy by vehicles are likely to be related to the extent that the arterial system is congested, which relates to efficiency of operation and the extent to which vehicle miles traveled is reduced due to greater connectivity between elements of the circulation system. There is no difference that can be assessed between the alternatives at this time, the have similar effects on efficiency and connectivity.

3.25 Light and Glare

Existing Conditions

Existing sources of light and glare in the area are vehicle lights on I-84 and residential and farm lighting. There are no streetlights currently in the area.

Impacts

The interchange and I-84 widening will likely add to light and glare through additional vehicle lights and lighting at the interchange. Land development in the area, especially commercial, office and industrial uses are likely to cumulatively add a much larger component of lighting. Upgraded arterials also are likely to incorporate street lighting. There is negligible difference in impacts between the interchange alternatives.

3.26 Geology - Local Geologic Features

Existing Conditions

The Meridian area lies within the Snake River and Boise River Plains. Geology consists of a series of volcanic lava flows inter-bedded with soil layers. Most outcrops within a few miles of Meridian expose black basalt lava flows on the Snake River Plain. Significant geologic areas include the Snake River and its tributary, the Boise River, plus the Idaho Batholith. Local topography and geomorphology are related to the action of Ten Mile Creek that flows through the area in a northwesterly direction. The stream has eroded existing gravel terraces and deposited alluvium. In addition, wind blown loess soils have been deposited where fluvial activities are not present.

Impacts

Geology and soils present moderate limitations for highway and transportation improvements, largely related to differential settlement that is readily addressed through standard engineering practices. There is little or no difference between the alternatives in terms of geologic or soil limitations.

3.27 Geology – Mines/Quarries

Existing Conditions

A large gravel quarry is located about a half mile southwest of the project. The quarry site is about 140 acres.

Impacts

The projects will have little or no impact on this quarry. The quarry is likely to utilize the interchange for movement of materials for delivery.

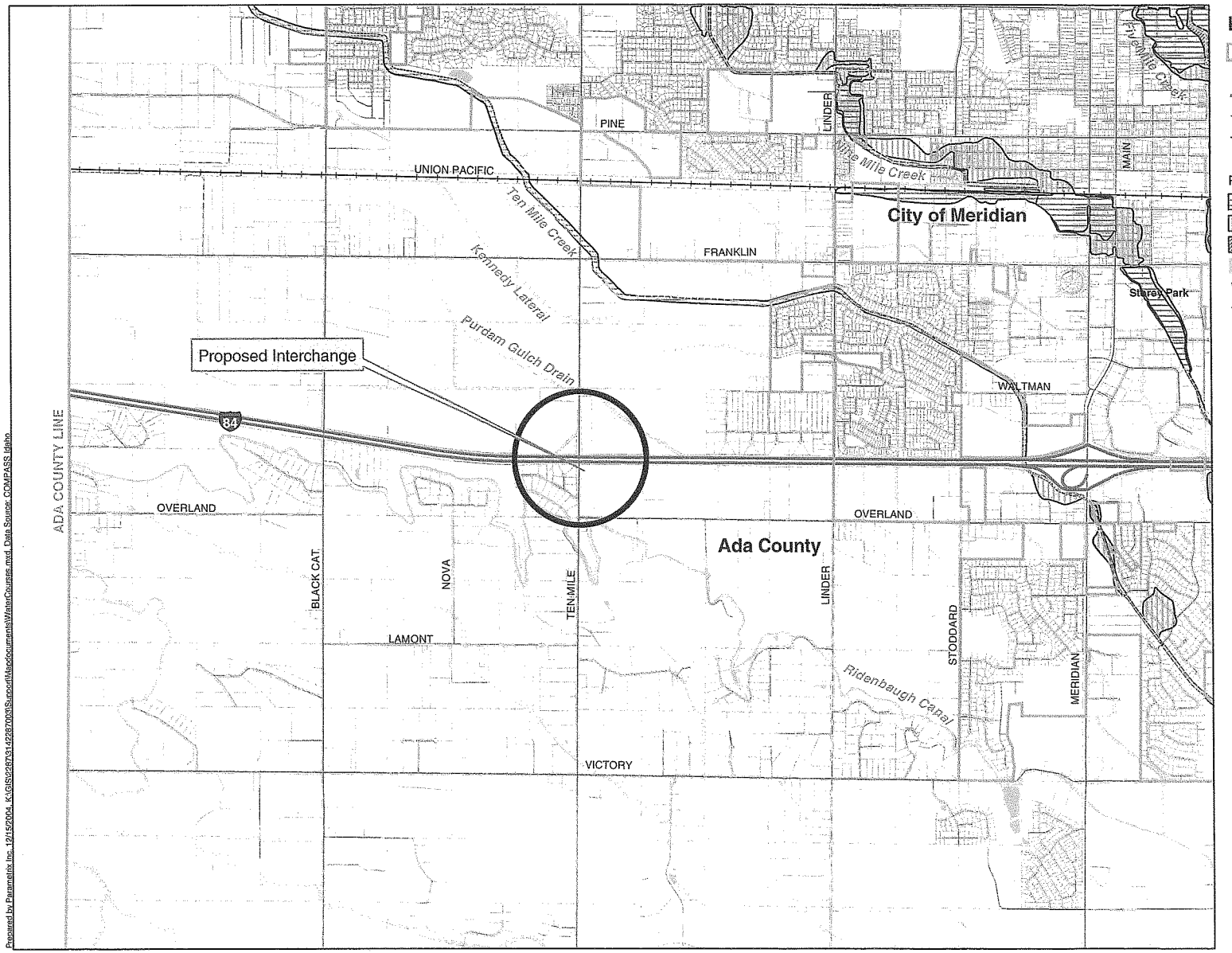
3.28 Surface Water - Rivers and Streams

Existing Conditions

Ten Mile Creek is the closest natural stream to the project site. The stream is crossed by I-84 about 1.8 miles east of the site. It flows in a northeasterly direction to the Boise River. It is diked and channelized in a narrow corridor through urban, residential, and farming areas (Figure 16).

Local surface drainage is carried by the Purdam Gulch Drain, a ditch that crosses I-84 at about 1,200 feet east of Ten Mile Road and flows generally northwest through fields, adjacent to roadways and the Union Pacific RR to eventually discharge to Ten Mile Creek.

The Ridenbaugh Canal is located south of the project site. The canal was determined to be "jurisdictional waters" of the United Stated by the Walla Walla District Army Corps of Engineers by determination NWW No. 042100142, dated 9-21-2004. Additional discussion of the canal is contained in the subsection below.



Legend

- City Limit
- Parcel
- Interstate Highway
- Principal, Major or Arterial Road
- Railroad
- Parcel

Flood Zone

- 100 Year
- 500 Year
- Floodway
- Waterbody

Water Course

- River
- Canal
- Stream

Feet
0 1,000 2,000

1 inch equals 2,000 feet

Figure 16
Ten Mile Road Interchange
Water Courses and
Flood Zones

Impacts

Construction of the proposed interchange will not cross or relocate Ten Mile Creek or the existing drainage ditches that provide drainage in the vicinity

Construction of the proposed interchange would affect the Ridenbaugh Canal only for Alternative 2, the Offset Diamond, which will relocate Ten Mile Road to the East and involve three canal crossings to realign with the existing roadway to the south.

I-84 widening to three lanes will require widening of the existing crossing of Ten Mile Creek east of the Meridian interchange.

A U.S. Army Corps of Engineers, Section 404 Permit would be required for I-84 widening at the Ten Mile Creek crossing or if a crossing of the irrigation canal is proposed in Alternative 2. Nationwide Permit 14 would apply to a road crossing of either the creek or the canal http://www.nww.usace.army.mil/html/offices/op/rf/nwp-ww/nwp02rev.pdf.

Secondary and Cumulative Impacts

Interchange improvements will provide needed transportation infrastructure to serve planned development. That will lead to improvements to local arterials that will include future widening of Ten Mile Road, which will require a widened crossing of the Ten Mile Creek north of the project site.

3.29 Surface Water – Stormwater Runoff

Existing Conditions

Runoff from the existing I-84 sheet flows to ditches on either side of the travel lanes and in the median. Drainage in the area is generally to the east, to the drainage ditch about 1,200 feet east of Ten Mile Road, which drains to the northwest and eventually to Ten Mile Creek. Most drainage can be expected to infiltrate into soils, however large storm events, especially rain on snow events can be expected to result in surface water runoff flowing east to Ten Mile Creek.

Impacts

Construction of the proposed interchange and I-84 widening will add impervious surface and increase stormwater runoff that will drain into roadside ditches, into the interceptor ditch 1,200 feet to the east and eventually to Ten Mile Creek.

Standards for stormwater flow and treatment are addressed in the Idaho Department of Transportation standards. The storm sewer and runoff system would have to be designed for the 25 year storm frequency event. Additionally, the interstate travel lanes cannot be flooded during a 50 year event, so drainage would have to be evaluated for the 50 year event also. It is likely that any storm sewer system would require either a detention or retention pond. The system would also include BMP water quality systems such as sand and grease traps or sediment and nutrient removal devices. The storm sewer system, including ponds, would need to comply with DEQ and NPDES requirements for water quality. These requirements limit the allowable load of sediment, phosphates, etc in the discharge water.

Secondary and Cumulative Impacts

The interchange will contribute infrastructure to accommodate regional and local land use plans that will lead to a change of use of sites in the vicinity. The change in land use will result in a change in the drainage system from one characterized largely by infiltration to largely runoff from impervious surfaces. Impacts on streams and ditches in the vicinity will depend on flow control and treatment incorporated into stormwater systems for future roadways, parking lots and building impervious surfaces.

3.30 Surface Water – Irrigation Canals

Existing Conditions

The Ridenbaugh Canal is located south of the project site. It comes within 200 feet of the I-84 right-of-way at places. Ten Mile Road crosses the canal about 1,800 feet south of I-84 by way of a concrete boxed culvert. The canal was constructed in the late 1800s and is currently operated by the Nampa-Meridian Irrigation District. The canal was determined to be "jurisdictional waters" of the United Stated by the Walla Walla District Army Corps of Engineers by determination NWW No. 042100142, dated 9-21-2004.

Impacts

Interchange Impacts

Construction of the proposed interchange affect the Ridenbaugh Canal only for Alternative 2, the Offset Diamond, which will relocate Ten Mile Road to the East and involve three canal crossings to realign with the existing roadway to the south.

A Section 404 Permit would be required for crossing of the irrigation canal. Nationwide Permit 14 would apply to a road crossing of the canal.

Impacts of I-84 Widening

I-84 Widening: I-84 widening to three lanes will not affect the Ridenbaugh Canal.

Secondary and Cumulative Impacts

Interchange improvements will provide needed transportation infrastructure to serve planned development. That will lead to improvements to local arterials that will include future widening of Ten Mile Road, which will require a widened crossing of the canal to the south of the project site.

3.31 Vegetation - Wetlands

Existing Conditions

No wetlands have been identified in the project vicinity. No wetlands in the vicinity of the project are indicated on the National Wetlands Inventory or information compiled by local jurisdictions. None of the soil types in the area are hydric, according to the NRCS. Abo soils have a high groundwater table, however field reconnaissance indicated no wetland indicator species were found in these areas, even in essentially fallow areas within the I-84 right-of-way or uncultivated portions of farmsteads. The irrigation canals and laterals in the area support riparian vegetation that is regularly removed by cutting, mowing, or herbicide application. This riparian vegetation however is not characteristic of wetland species.

Impacts

Construction of the proposed interchange and widening I-84 will not displace wetlands.

Secondary and Cumulative Impacts

Future widening of Ten Mile Road is not expected to affect wetlands because none have been identified at the canal crossing to the south.

3.32 Endangered Plants & Animals, Wildlife Habitat

Existing Conditions

No endangered plant or animal species or Idaho designated special status species have been observed in the vicinity of the proposed interchange. The native vegetation and wildlife habitat has been altered by farming roadway, canal, and residential construction. The areas that are not cultivated are characterized by common indigenous species as well as introduced and invasive species. The Idaho Conservation Data Center has been contacted for existing information on plant and animal occurrences in the vicinity. Species present in the area are likely to be those commonly acclimated to co-existing with human activities in farming areas.

Information from the Idaho Fish and Game Department, Conservation Data Center is incorporated in Appendix C. Species identified are associated with the Deer Flats National Wildlife Refuge east of Nampa.

Impacts

Construction of the proposed interchange and widening of I-84 will not displace habitat used by endangered species or species with special status. Future widening of Ten Mile Road is not expected to affect such habitat.

4 CONCLUSIONS

The Environmental Scan prepared for the proposed interchange alternatives at Interstate 84 and Ten Mile Road and the widening of I-84 between the Meridian interchange and the proposed Ten Mile Interchange indicates that the impacts of all the Alternatives is relatively minor.

An Environmental Assessment pursuant to 23 CFR 771.119 appears to be the appropriate mechanism for assessment of impacts of this project.

4.1 Impacts

Relationship to Regional and Local Land Use Plans

The proposed interchange is consistent with local and regional land use plans and has been designated as needed infrastructure to accommodate local land use and economic development policies. The major effects of the interchange are secondary and cumulative impacts of enabling the planned change in land use from agricultural and low intensity residential to high intensity urban uses. These effects stem largely from local land use and economic development plans rather than the interchange proposal.

Displacement

The alternatives displace between 4 and 11 existing dwellings. In addition, the Modified Loop in the Southwest Quadrant would displace the existing local road serving the subdivision in that area. Replacement access would either require a deviation from access control standards for separation from ramp termini, or would require alternative access to be constructed from the west, which may involve substantial topographic constraints, as well as crossing intervening property and the irrigation canal.

The properties displaced are likely to eventually be replaced by higher intensity urban development as the result of implementation of local land use plans.

Farmland Impacts

Loss of prime farmland ranges from about 5 to 15 acres from direct displacement by the interchange alternatives. The greater impacts are secondary and cumulative impacts of providing the transportation infrastructure that accommodate implementation of the regional and local land use and economic development plans that will convert existing farmland to high intensity urban uses. No farmland displacement results from I-84 widening.

Environmental Justice

There are no minority populations in the vicinity and unlikely to be low income populations that are likely to be subject to disproportionate impacts.

Cultural Resources

There are no known archaeological or historic resources that will be displaced or adversely impacted by the interchange alternatives or I-84 widening.

No historic or archaeological resources are identified in the vicinity by the Idaho State Historical Society, the State Historic Preservation Officer.

Several buildings and barns in the vicinity have been identified as of historic interest by the Ada County Historic Preservation Council, but are not eligible for the National Register of Historic Places. None of those resources are displaced.

It is likely that these sites of historic interest will be displaced or altered by future private development in the area to accommodate commercial uses.

Air Quality

Air quality impacts of the interchange and I-84 widening are consistent with the CO and MP10 Maintenance plans for the region. The interchange is included in the regional transportation agency Transportation Improvement Program and has been the included in the conformity analysis performed for that program.

Noise

Noise and other proximity impacts are likely to be limited in effect over the long term due to the commercial, industrial and mixed-use development planned in the vicinity. These uses are likely to have a low sensitivity to noise and other proximity impacts. Existing residences to the southwest of the proposed interchange are the most likely sensitive receptors. Mitigation of noise impacts on these existing dwellings can be accomplished by noise barriers, if further analysis demonstrates that mitigation is warranted.

Visual Quality

Views from the road for drivers and passengers are unlikely to be substantially altered by any of the interchange alternatives or I-84 widening. The interchange configurations are likely to be perceived as normal elements of the interstate freeway environment and will not disrupt views of vivid elements of the landscape.

Views of the road from the surroundings are of an existing highway and overpass that are elements of the near view, from the context in which the mountains in the distance are the vivid visual focus of views. The near views will not be substantially changed by widening the existing overpass and the addition of ramps. The Offset Single Point interchange employs two new ramps that will cross over and above the existing highway and add more visual clutter to near views, as compared to the other alternatives.

Elements of the Natural Environment

The proposed interchange and widening of I-84 is not likely to have substantial impacts on the natural environment because of the lack of sensitive resources in the area.

- There are no sensitive geologic features or soils in the area.
- The proposals will not affect streams, except for widening of the existing crossing of Ten Mile Creek for I-84 widening. Impacts of additional runoff will be mitigated by ITD standards for flow control and water quality.
- No wetlands or hydric soils have been identified in the area.
- No endangered or threatened species of plants or animals have been identified in the area, nor is there substantial habitat for species of local importance.

Of the alternatives under consideration, the standard diamond configuration appears to have the least overall environmental impacts. It does displace 3 existing single-family residences, however those residences are targeted for eventual commercial development by local land use plans.

The greatest environmental impacts are associated with the modified loop in the southwest quadrant. This alternative displaces about nine residences and also would displace the current access road for the remaining residences. Redevelopment to the commercial use envisioned in the Comprehensive Plan

would be difficult under this alternative because of access and the size and configuration of the remaining parcel.

4.2 Mitigation Measures

Potential mitigation measures identified include the potential for noise barriers to reduce impacts to existing residences southwest of the interchange.

4.3 Additional Environmental Analysis

Additional detailed analysis likely to be required for a NEPA review may include, but are not limited to, the following elements:

- Displacement impacts will be assessed based on more detailed project plans.
- Income and minority status of the residential community in the southwest quadrant and the extent to which the census block data is representative of those residents, and that substantial change in the character of residents has not occurred since the 2000 census may be confirmed by direct survey.
- Field survey of potential archaeological and historic resources with formal evaluation of buildings for eligibility for the National Register of Historic Places.
- Collection of additional existing noise data and noise modeling of the interchange improvements and I-84 widening will be needed to determine impacts and whether mitigation is warranted.
- Field survey of potential wetlands, rare or endangered plant and animal species, and wildlife habitat will be needed.

Based on the limited impacts disclosed by this Environmental Scan, the appropriate environmental documentation for this project would be a NEPA Environmental Assessment.

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APPENDIX A

Summary Matrix of Impacts

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Land Use - Jurisdictions in the vicinity **Ada County:** The site is currently in unincorporated Ada County **City of Meridian:** The site is within the city's "Urban Growth and Impact Area." The current city limits are shown on Figure 1, Vicinity Map.				
Land Use - Comprehensive Plan Designations **Ada County:** **Impacts Common to All Alternatives** **Interchange:** Construction of the proposed interchange will provide needed transportation capacity to serve the land use plans of local jurisdictions. Some existing and future land uses may be displaced by the interchange, as discussed in more detail below. **I-84 Widening:** I-84 widening to three lanes is expected to occur within existing right-of-way. It will provided needed transportation capacity for the region. It is not expected to displace adjacent uses or create proximity impacts such as noise that cannot be mitigated.				
Land Use - Comprehensive Plan Designations **City of Meridian:** **Interchange:** Construction of the proposed interchange will have no direct impact on the regional and local land use and economic development plans. In the mixed use area north of I-84, it is anticipated that future mixed use development will be designed to place uses not sensitive to noise impacts adjacent to the roadway and interchange. In the residential area north of I-84, about a half mile east of Ten Mile Road, if proximity impacts such as noise increase substantially, they can be anticipated to be mitigated by noise barriers and have little net impact. Impacts would be the same for all interchange alternatives. **Secondary and Cumulative Impacts:** The interchange will contribute to implementation of the Comprehensive Plan by providing needed transportation infrastructure to accommodate the high intensity urban land use called for in regional and local land use plans. I-84 Widening: I-84 widening to three lanes is expected to occur within existing right-of-way. It will provided needed transportation capacity for the region.				

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Land Use - Comprehensive Plan Designations **City of Meridian:** **I-84 Widening:** I-84 widening to three lanes is expected to occur within existing right-of-way. It will not displace additional land.				
Interchange: **North Side of I-84:** Construction of this design would displace about 5.5 acres of Mixed Use designated area on the north side of I-84. This could result in loss of 20 to 220 residential units, or more likely 75,000 to 100,000 square feet of freeway oriented commercial uses.	**Interchange:** **North Side of I-84:** Construction of this design would displace about 8.6 acres of Mixed Use designated area on the north side of I-84. This could result in loss of 30 to 340 residential units, or more likely 100,000 to 160,000 square feet of freeway oriented commercial uses.	**Interchange:** **North Side of I-84:** Construction of this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of Mixed Use designated area.	**Interchange:** **North Side of I-84:** Construction of this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of Mixed Use designated area.	**Interchange:** **North Side of I-84:** Construction of this design would have the same impacts as Alternative 1. It would displace about 5.5 acres of Mixed Use designated area.
Interchange: **SW quadrant,** about 2.25 acres of commercial designated area would be displaced. This could result in loss of future freeway oriented commercial uses. However, this area is currently residential. **SE quadrant,** about 2.25 acres of commercial designated undeveloped area would be displaced. Remaining land in the area would be of a size and configuration allowing development. Development potential would be enhanced by the interchange.	**Interchange:** **SW quadrant,** about 1 acre of commercial designated area would be displaced. As with Alternative 1, the balance of the commercial designated area is currently residential. **SE quadrant,** about 10 acres would be displaced and would divide the remaining commercial area into two parcels of about 2.5 and 3.5 acres in size on each side of the new arterial. Smaller parcel size may result in different commercial uses.	**Interchange:** **SW quadrant,** no displacement would occur. **SE quadrant,** about 15 acres would be displaced, leaving the remaining 4.5 acre parcel with access only on Overland Road. That would probably preclude freeway oriented development on this parcel, but would accommodate community oriented commercial.	**Interchange:** **SW quadrant,** about 9 acres of commercial designated area would be displaced. The remaining narrow strip between the interchange and the Ridenbaugh Canal would have substantially limited development potential. Access to the remaining area would require a design deviation or alternative access from the west. **SE quadrant,** displacement of about 1.8 acres of commercial designated land from Overland Road relocation.	**Interchange:** **South side of I-84,** no displacement of the area designated for future commercial uses would be displaced. for the area in the SW quadrant, currently residential, future commercial redevelopment would be complicated by the acquisition of land from up to 22 property owners.

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Ada County Zoning **Interchange:** Displacement - see individual alternatives. **I-84 Widening:** No displacement Impacts.				
Interchange: **North of I-84**, about 5.5 acres of Rural Urban Transition zoning would be displaced. **South of I-84**, about 2.25 acres of R-1, single family, zoning would be displaced on the west side of Ten Mile Road and 2.25 acres of Rural-Urban Transition zoning would be displaced on the east side of Ten Mile Road.	**Interchange:** **North of I-84**, about 8.5 acres of Rural-Urban Transition zoning would be displaced. **South of I-84**, about 1 acre of R-1, single family, zoning would be displaced on the west side of Ten Mile Road and 10 acres of Rural-Urban Transition zoning would be displaced on the east side of Ten Mile Road.	**Interchange:** **North of I-84**, impacts would be the same impacts as Alternative 1, about 5.5 acres of Rural-Urban Transition zoning would be displaced. **South of I-84**, none of the R-1, single family, zoning would be displaced on the west side of Ten Mile Road. On the east side of Ten Mile Road, about 15 acres of Rural-Urban Transition zoning would be displaced.	**Interchange:** **North of I-84**, impacts are the same impacts as Alternative 1, displacement of about 5.5 acres in RUT zoning. **South of I-84**, in the SW quadrant, about 9 acres of the R-1, single family, zoning would be displaced. Access to the remaining lots would be displaced by the limited access control from the ramp terminus. A design deviation or alternative access from the west would be required. In the SE quadrant, about 1.8 acres of RUT zoned land displaced by relocation of Overland Road.	**Interchange:** **North of I-84**, impacts would be the same as Alternative 1, about 5.5 acres of Rural-Urban Transition zoning would be displaced. **South of I-84**, none of the R-1, single family, zoning or the Rural-Urban Transition zoning would be displaced.
Land Use - Existing Development **Interchange:** Displacement - see individual alternatives. Note that the land and uses displaced are all designated for future mixed-use and commercial use in the City of Meridian Comprehensive Plan. **I-84 Widening:** No displacement Impacts. **Secondary and Cumulative Impacts:** The interchange would contribute to the conversion of the existing single family development to the west of Ten Mile Road by providing needed transportation infrastructure to accommodate the commercial development called for in regional and local land use plans that provide for conversion of farmland to urban development. The interchange by itself will not produce these impacts, but it will provide the needed infrastructure to allow implementation of the local plans.				

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Land Use - Existing Development				
Interchange: **North of I-84,** **NW quadrant**, all of the existing farmstead consisting of a residence and related farm buildings would be displaced, together with about an acre of crop land from the frontage road relocation. **NE quadrant**, about 2.25 acres of irrigated crop land would be displaced.	**Interchange:** **North of I-84,** **NW quadrant**, a portion of the existing farmstead would be displaced. The number of buildings affected would depend on the design of slopes from the northbound on-ramp. As a conservative case, the existing residence and related farm buildings could be displaced. **NE quadrant**, about 8 acres of irrigated crop land would be displaced together with the existing farmstead.	**Interchange:** **North of I-84,** **NW quadrant**, Impacts would be the same as Alternative 1, all of the existing farmstead would be displaced, together with about an acre of crop land from the frontage road relocation. **NE quadrant**, about 2.25 acres of irrigated crop land would be displaced.	**Interchange:** **North of I-84,** **NW quadrant,** Impacts would be the same as Alternative 1, all of the existing farmstead would be displaced, together with about an acre of crop land from the frontage road relocation. **NE quadrant,** about 2.25 acres of irrigated crop land would be displaced.	**Interchange:** **North of I-84,** **NW quadrant,** Impacts would be the same as Alternative 1, all of the existing farmstead would be displaced, together with about an acre of crop land from the frontage road relocation. **NE quadrant,** about 2.25 acres of irrigated crop land would be displaced.
South of I-84 **SW quadrant**, 3 existing residences would be displaced. Substantial displacement would take place on two additional lots, which might lead to displacement of residences. Remaining residences would be subject to proximity impacts such as noise, discussed below. **SE quadrant**, about 2.25 acres of irrigated crop land would be displaced.	**South of I-84** **SW quadrant**, none of the existing residences would be displaced, however some lot area would be used for ramps. **SE quadrant**, about 10 acres of irrigated crop land would be displaced. The remaining farmland would be divided into two parcels, economies of scale for farming would be less.	**South of I-84** **SW quadrant**, none of the existing residences would be displaced. **SE quadrant**, about 10 acres of irrigated crop land would be displaced. The remaining farmland would be in a single contiguous parcel and farming would not be impaired.	**South of I-84** **SW quadrant**, 10 current residences would be displaced by the interchange and likely relocation of the existing access road to the remaining homes. Access to the residential subdivision would be displaced by the limited access control from the ramp terminus. A design deviation or alternative access from the west would be required. **SE Quadrant**, displacement of 1.8 acres of cropland from Overland Road relocation.	**South of I-84** **SW quadrant,** none of the existing residences would be displaced. **SE Quadrant**, no displacement of crop land would occur in the SE quadrant.

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Land Use - Farmland and Prime Farmland **Interchange:** Displacement - see individual alternatives. **I-84 Widening:** No displacement Impacts. **Secondary and Cumulative Impacts:** The interchange will contribute needed infrastructure to accommodate regional and local land use plans that provide for conversion of farmland to urban development. The interchange by itself will not produce these impacts, but it will provide the needed infrastructure to allow implementation of the local plans.				
Interchange: Displacement of existing prime farmland would total about 5.5 acres on the west side of Ten Mile Road on both sides of I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. An area of less than an acre of Power series soils, also prime, would be displaced.	**Interchange:** Displacement of existing prime farmland would total about 18 acres on the west side of Ten Mile Road on both sides of I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. An area of about 12 acres of Power and Purdam series soils, also prime farmland, would be displaced.	**Interchange:** Displacement of existing farmland would total about 17 acres on the west side of Ten Mile Road on both sides of I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. An area of about 5 acres of Power series soil, also prime farmland, would be displaced.	**Interchange:** Displacement of existing farmland would total about 2.5 acres on the NE quadrant of Ten Mile Road and I-84. The soil type in this area is primarily Abo Silt Loam which is classified as prime farmland. The displacement of the residential area in the SW quadrant would displace an existing residential area. Although this area contains Abo series soils, since it is not farmed, it is not prime farmland. In the SW quadrant, displacement of about 1.8 acres of prime farmland from Overland Road relocation.	**Interchange:** Displacement of existing farmland would total about 2.5 acres on the NE quadrant of Ten Mile Road and I-84. The soil type in this area is primarily Abo Silt Loam which is a classified as category IIw for crop production when irrigated and is classified as prime farmland. No displacement of farmland would occur on the south side of I-84.
Transportation – Major Arterials **Interchange:** Construction of the proposed interchange will require widening of Ten Mile Road to urban arterial standards to accommodate increased traffic volumes. **I-84 Widening:** I-84 widening to three lanes will not directly affect local roads. **Secondary and Cumulative Impacts:** The interchange will contribute needed infrastructure to accommodate regional and local land use plans that will also require improvements to a variety of local arterials.				

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Transportation – Interstate Highways **Interchange:** Construction of the proposed interchange will implement regional transportation plans and provide needed transportation capacity to serve the land use plans of local jurisdictions. The interchange alternatives do not represent a difference in impacts on operation of the freeway mainline. **I-84 Widening:** I-84 widening to three lanes will implement regional transportation plans and provide needed transportation capacity to serve the land use plans of local jurisdictions.				
Transportation – Railroad Lines **Interchange:** Construction of the proposed interchange will require widening of Ten Mile Road to urban arterial standards. The existing railroad crossing will need to be updated. The potential for rail/vehicle conflicts will increase somewhat due to higher traffic volumes. The potential for rail and vehicular traffic to conflict with movement of either mode will increase slightly. **I-84 Widening:** I-84 widening to three lanes will not directly affect railroad use or operation.				
Transportation – Pedestrian and Bicycle Facilities **Interchange:** Construction of the proposed interchange will not directly affect pedestrian circulation. The pedestrian crossing facilities on the overpass can be expected to be upgraded. Future widening of Ten Mile Road to urban arterial standards will incorporate pedestrian facilities. **I-84 Widening:** I-84 widening to three lanes will not directly affect pedestrian circulation.				
Transportation – Pedestrian and Bicycle Hazards **Interchange:** Construction of the proposed interchange will not directly affect pedestrian circulation. The pedestrian crossing facilities on the overpass can be expected to be upgraded. The long term effects on pedestrian safety depend largely on whether future pedestrian improvements to Ten Mile Road and other roadways occurs prior to a major increase in pedestrian demand due to development. **I-84 Widening:** I-84 widening to three lanes will not directly affect pedestrian safety.				
Transportation – Public Transportation **Interchange:** Construction of the proposed interchange has the potential to allow existing bus routes to serve local demand. This could take a number of forms ranging from a "freeway flyer stop" on interchange ramps, to bus circulation into park and ride facilities close to I-84, to bus routes that circulate to local activity centers. **I-84 Widening:** I-84 widening to three lanes will indirectly enhance transit service by providing for effective vehicular movement. The current proposal is for general purpose lanes that would not directly benefit transit. **Secondary and Cumulative Impacts:** The interchange will contribute needed infrastructure to accommodate regional and local land use plans that target this area for additional development. The location of the interchange near high intensity use may create a demand for additional transit service.				

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Utilities - Public Water Systems, Public Sewer Systems The interchange and I-84 widening will not directly affect public utilities or services. **Secondary and Cumulative Impacts:** The interchange will contribute needed infrastructure to accommodate regional and local land use plans that will require additional public services to accommodate urban development. The interchange by itself will not produce these impacts, but it will provide the needed transportation infrastructure to allow implementation of the local plans.				
Utilities - Natural gas transmission The interchange and I-84 widening are not expected to affect this pipeline, provided adequate design and construction safeguards are taken. There is little difference in impacts between the alternatives. The Alternative 2 transition back to Ten Mile Road may be in the vicinity of the pipeline.				
Public Facilities - Public parks The interchange and I-84 widening will not displace park or recreation lands or facilities. **Secondary and Cumulative Impacts:** The interchange and I-84 widening will not affect the demand for parks, but may change the rate of growth and the time when enhanced facilities are needed. There is no difference in impacts between the alternatives.				
Public Facilities - Schools The interchange and I-84 widening will not displace school lands or facilities. **Secondary and Cumulative Impacts:** The interchange and I-84 widening will not affect schools, but may change the rate of growth and the time when enhanced facilities are needed. Peregrine Elementary School is distant enough from I-84 to avoid noise and other proximity impacts. There is no difference in impacts to schools between the alternatives.				
Public services – Police **Secondary and Cumulative Impacts:** The interchange and I-84 widening will not affect police service, but may change the rate of growth and the time when enhanced levels of service are needed. There is no difference in impacts between the alternatives.				
Public services - other **Secondary and Cumulative Impacts:** The interchange and I-84 widening will not affect the demand for irrigation water or related facilities. Potential future crossings of canals are addressed below under Surface Water - Irrigation canals				
Population Characteristics/ Environmental Justice The interchange and I-84 widening are not likely to result in disproportionate impacts on minorities or low income populations, based on review of existing census information for the year 2000. Additional more detailed assessment of existing residential units displaced will be required at project environmental review. There is no difference in impacts between the alternatives.				

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Cultural – Archaeological sites The interchange and I-84 widening will require site specific archaeological assessment at the environmental review stage. Impacts are not likely. If artifacts are encountered during construction, a response plan should assure conservation. There is no known difference in impacts between the alternatives.				
Cultural – Historic resources (buildings, sites, districts) **I-84 Widening:** I-84 widening to three lanes is expected to occur within existing right-of-way. It will not affect historic buildings.				
Interchange: This alignment has no impacts on historic structures or other resources. NW quadrant, displaced farmstead is not known to have special historical associations and is not identified as such by any historic inventory. SW quadrant, buildings displaced are generally not older than 50 years. SE quadrant, Ada County Inventory Sites 232, 233 and 234 are not individually eligible for the National Register of Historic Places and in addition are about 450 feet from ramp termini.	**Interchange:** The re-alignment of Ten Mile Road avoids sites 232 and 233 in the SE quadrant. The roadway is about 120 feet from Site 232 with the edge of fill about 30 feet away. Buildings displaced in the SW quadrant are generally not older than 50 years. The farmstead in the NW quadrant can be preserved, although it is likely to be displaced by development of the land in the future. There would be three crossing of the Ridenbaugh Canal which will not affect its historic integrity	**Interchange:** This alignment avoids all existing structures, except the farmstead in the NW quadrant that is not known to have historic associations. In the SWE quadrant, the loop ramp is within 100 feet of Sites 232 and 233.	**Interchange:** This alignment primarily impacts residences in the SW quadrant that are generally not older than 50 years. The building on Site 234 is within 150 feet of the ramps. If a realigned access roadway is allowed from Ten Mile Road, it could displace the building, depending on location. In the SE quadrant, the relocation of Overland Road is more than 100 feet from potential historic structures. In the NW quadrant, the farmstead displaced in is not known to have historical associations.	**Interchange:** This alignment has no impacts on historic structures or other resources. The only building displaced is the farmstead in the NW quadrant, is not known to have special historical associations. Ramps on the sough side of I-84 are more than 1,000 feet from Sites 233 and 234.

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Visual resources Interchange				
Views from I-84 in the vicinity of the interchange will likely be perceived as a typical freeway facility. The geographic setting and the lack of notable landmarks will not change as a result of this alternative. The view of the road from existing single-family residential dwellings will be altered little by widening of the overcrossing and installation of ramps. The interchange will be an element in near views. The visual focus of views will remain the mountains in the distance.	**Views from I-84** in the vicinity of the interchange will likely be perceived as a typical freeway facility with loop ramps. The framing views will change little. The view of the road from existing single-family residential dwellings will be altered slightly by size of the loop ramp which will be an element in near views. The visual focus of views will remain the mountains in the distance.	**Views from I-84** in the vicinity of the interchange will likely be perceived as a typical freeway facility. The framing views will change little. The view of the road from existing single-family residential dwellings will be altered by the relocation to the west and the grades required to cross the Ridenbaugh canal. The visual focus of views will remain the mountains in the distance.	**Views from I-84** in the vicinity of the interchange will likely be perceived as a typical freeway facility with loop ramps. The framing views will change little. The view of the road from existing single-family residential dwellings will be altered for those remaining in the SW quadrant by the close proximity of the loop ramp. For residences at a greater distance the ramps will be an element in near views. The visual focus will remain distant mountains.	**Views from I-84** in the vicinity of the interchange will likely be perceived as a somewhat atypical freeway facility because of overcrossings. The framing views will change little. The view of the road from existing single-family residential dwellings will include much more prominent overcrossings in near views. The visual focus will remain distant mountains.
Visual resources I-84 Widening **Views from I-84** of the widened freeway is likely to be perceived by drivers and passengers as a typical freeway facility. The additional lane is likely to increase driver comfort somewhat and possibly add to the enjoyment of driving. The uses framing the highway will change over time as a result of land use changes governed by local plans and zoning, but the overall geographic setting will not change as the result of widening. Minor variations in views are discussed for each alternative. The **view of the road** is from existing single-family residential dwellings and will be altered little by widening of the freeway an additional lane in each direction. The roadway is a linear element in near views but is likely to be relatively minor given the vivid element of mountains in the distance that provides the visual focus for views to the north.				

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Noise				
Interchange: Primary noise impact is to existing residential uses to the southwest of the site. Two existing residences will be within 100 feet of the new ramps, with an additional 3 residences within 200 feet. Mitigation measures such as noise barriers may be effective in reducing noise close to existing levels. Noise impacts to the north and southeast will not require mitigation because of the future mixed use, commercial and industrial uses designated for these areas.	**Interchange:** Shifting Ten Mile Road and the interchange to the east will place the primary impact ion current farmland designated for future industrial use. There will be minor increases in noise from the eastbound off-ramp near existing residences that may be mitigated by noise barriers. The relocation of Ten Mile Road to the east also would reduce noise impacts to the existing residential area from vehicles on the arterial.	**Interchange:** The interchange loop off-ramp to the east of Ten Mile Road will place the primary impact ion current farmland designated for future industrial use. The existing residences southeast of Ten Mile Road would experience noise impacts from the intersection of the ramps with Ten Mile Road and also higher traffic volumes on that local arterial.	**Interchange:** The interchange off-ramp and loop on-ramp in the southwest quadrant and relocation of the existing local road would place ramps within 100 feet of two remaining residences and within 200 feet of 4 remaining residences. The total residences subject to noise impacts would be reduced by displacement of 10 to 12 residences. Noise barriers would be effective mitigation for the majority of remaining residences.	**Interchange:** Shifting the interchange to the north would place ramps further from the residences to the southwest, but would result in higher overpass structures which result in noise carrying further and would not allow effective noise barrier mitigation. Resulting impacts on the residential area to the southwest would result in noise impacts to a greater number of residences.
I-84 Widening: I-84 widening to three lanes will increase noise levels in relation to the increase in the number of vehicles and speeds. Future mixed use development on the north side of I-84 in the vicinity of Ten Mile Road can avoid noise impacts by locating less sensitive uses close to I-84. Single family residential uses to the east may require noise barriers or other mitigation. On the south side of I-84, future commercial and industrial uses will not be adversely impacted by roadway noise. Impacts of widening the I-84 mainline would not vary for the interchange alternatives.				
Air Quality Amendments to the Federal Clean Air Act (CAA) mandate that any future transportation projects that use federal funds and/or are deemed to be "regionally significant" in nonattainment and maintenance areas cannot contribute to a degradation of air quality (40CFR93). Thus, transportation plans must "conform" to air quality plans. Transportation conformity is demonstrated when a nonattainment or maintenance area can show, within the applicable guidelines and regulations, that planned transportation projects listed in a transportation program or plan will not cause or contribute to exceedances of the Environmental Protection Agency's (EPA's) health based air quality standards. The Community Planning Association of Southwest Idaho (COMPASS) conducted an air quality planning analysis for the Destination 2030 Limited Plan Update and an amendment of the FY2005-2009 Transportation Improvement Program (TIP), Report No. 2-2005, October 2004. The analysis showed minor increases in forecasted "build" CO emissions when compared to the "no-build" scenarios. However, these increases are well below the CO emission forecasts in the Limited Maintenance Plan. The Ten Mile Road interchange with I-84 is contained in thethe FY2005-2009 Transportation Improvement Program (TIP) and is therefore in compliance with air quality plans.				

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1 Standard Diamond	Alternative 2 Offset Diamond	Alternative 3 Modified Loop SE Quadrant	Alternative 4 Modified Loop SW Quadrant	Alternative 5 Offset Single Point
Hazardous waste sites The interchange and I-84 widening will require site specific hazardous materials assessment at the environmental review stage. Impacts are not likely. If hazardous materials are encountered during construction, a response plan should assure cleanup or on-site stabilization. There is no current information that would provide a bias for differentiating impacts between the alternatives.				
Energy resources The interchange and I-84 widening will require site specific assessment of energy use at the environmental review stage. Impacts on the use of energy by vehicles are likely to be related to the extent that the arterial system is congested, which relates to efficiency of operation and the extent to which vehicle miles traveled is reduced due to greater connectivity between elements of the circulation system. There is no difference that can be assessed between the alternatives, they have similar effects on efficiency and connectivity.				
Light and Glare The interchange and I-84 widening will likely add to light and glare through additional vehicle lights and lighting at the interchange. Land development in the area, especially commercal, office and industrial uses are likely to cumulatively add a much larger component of lighting. Upgraded arterials also are likely to incorporate street lighting. There is negligible difference in impacts between the interchange alternatives.				
Geology and Soils Geology and soils present moderate limitations for highway and transportation improvements, largely related to differential settlement that is readily addressed through standard engineering practices. There is little or no difference between the alternatives in terms of geologic or soil limitations.				
Geology - Mines/quarries The projects will have little or no impact on this quarry. The quarry is likely to utilize the interchange for movement of materials for delivery.				
Surface Water - Rivers and Streams **Interchange:** Construction of the proposed interchange will not affect Ten Mile Creek. Alternative 2 would involve three crossing of Ridenbaugh canal. **I-84 Widening:** I-84 widening to three lanes will require widening of the existing crossing of Ten Mile Creek east of the Meridian interchange. **Secondary and Cumulative Impacts:** Interchange improvements will provide needed transportation infrastructure to serve planned development. That will lead to improvements to local arterials that will include future widening of Ten Mile Road, which will require a widened crossing of the Ten Mile Creek north of the project site.				

Appendix A - Environmental Impacts Matrix

Environmental Impacts

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Standard Diamond	Offset Diamond	Modified Loop SE Quadrant	Modified Loop SW Quadrant	Offset Single Point
Surface Water - Stormwater Runoff **Interchange and I-84 Widening:** Construction of the proposed interchange will add impervious surface and increase stormwater runoff that will drain into roadside ditches and eventually to Ten Mile Creek. Standards for stormwater flow and treatment are addressed in the Idaho Department of Transportation standards. The storm sewer and runoff system would have to be designed for the 25 year storm frequency event. Additionally, the interstate travel lanes cannot be flooded during a 50 year event, so drainage would have to be evaluated for the 50 year event also. It is likely that any storm sewer system would require either a detention or retention pond. The system would also include BMP water quality systems such as sand and grease traps or sediment and nutrient removal devices. The storm sewer system, including ponds, would need to comply with DEQ and NPDES requirements for water quality. These requirements limit the allowable load of sediment, phosphates, etc in the discharge water.				
Interchange: Construction of the proposed interchange will not affect the Ridenbaugh Canal.	**Interchange:** Construction of the interchange under this alternative will require three crossings of the Ridenbaugh Canal east of Ten Mile road.	**Interchange:** Construction of the proposed interchange will not affect the Ridenbaugh Canal.	**Interchange:** Construction of the proposed interchange will not affect the Ridenbaugh Canal.	**Interchange:** Construction of the proposed interchange will not affect the Ridenbaugh Canal.
Wetlands **Interchange:** Construction of the proposed interchange will not displace wetlands. Future widening of Ten Mile Road is not expected to affect wetlands because none have been identified at the canal crossing to the south. **I-84 Widening:** I-84 widening to three lanes will not displace identified wetlands.				
Endangered Plants and Animals, Wildlife Habitat **Interchange:** Construction of the proposed interchange will not displace habitat used by endangered species or species with special status. Future widening of Ten Mile Road is not expected to affect such habitat. **I-84 Widening:** I-84 widening to three lanes will not displace habitat used by endangered species or species with special status.				

APPENDIX B

Excerpts Ada County Historic Inventory

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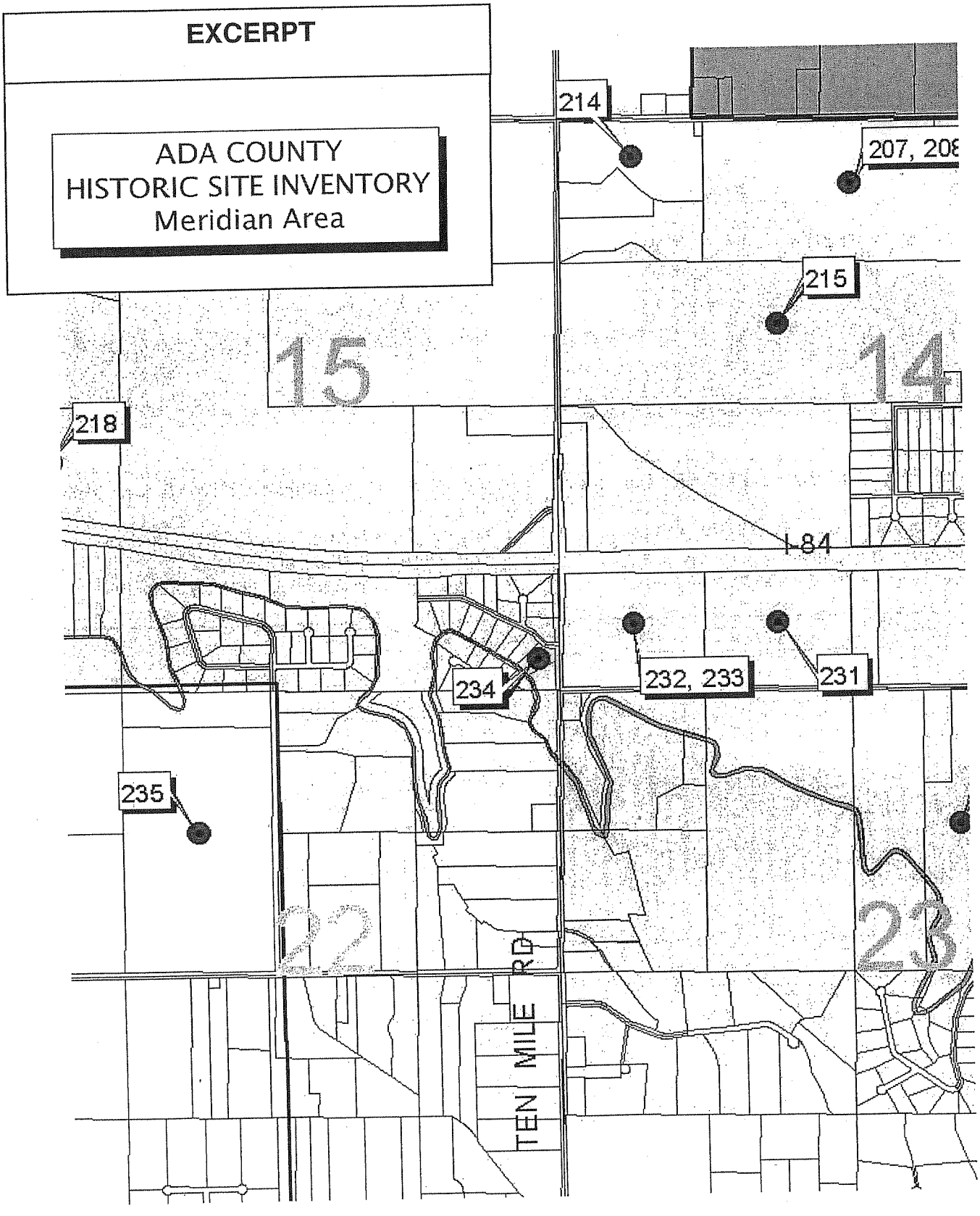

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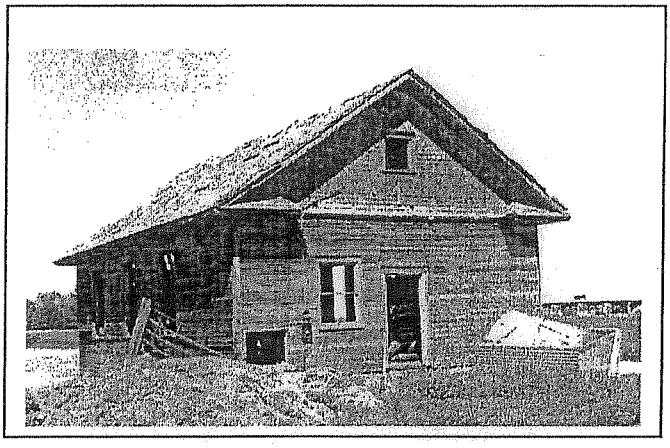
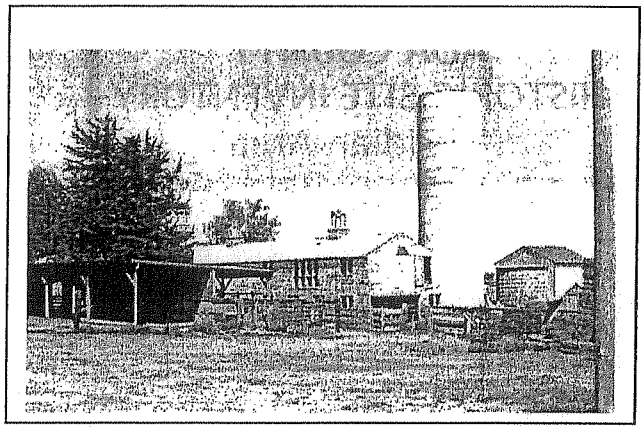


Site No: 232 Address: 1520 S Ten Mile, Meridian
Status: Contributing Parcel: S1214336300
Township/Range/Section:
T 3N, R 1W,SEC.14, SW1/4 OFTHE SW1/4



Site No: 233 Address: 1520 S Ten Mile, Meridian
Status: Contributing Parcel: S1214336300
Township/Range/Section:
T 3N, R 1W,SEC.14, SW1/4 OFTHE SW1/4

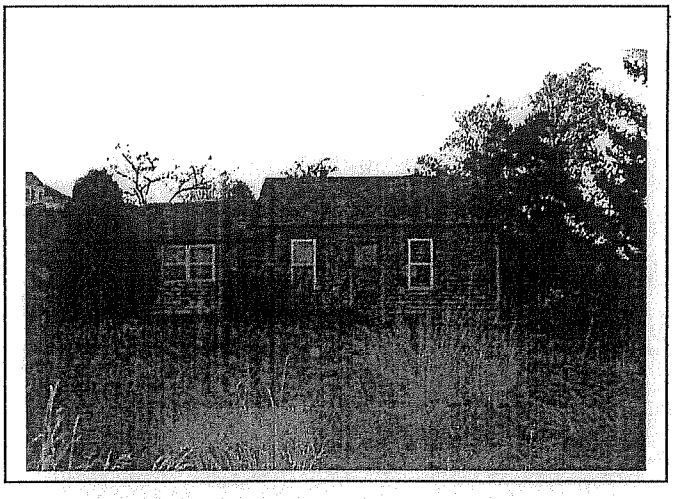


Photo by Parametrix Inc.

Site No: 234 Address: 1505 S Ten Mile, Meridian
Status: Contributing Parcel: R1389330100
Township/Range/Section:
3N, R 1W,SEC.15, SE1/4 OFTHE SE1/4

APPENDIX C

Idaho Conservation Data Center Information

IDAHO CONSERVATION DATA CENTER

The Idaho Conservation Data Center collects, analyzes, maintains, and disseminates scientific information necessary for the management and conservation of Idaho's biological diversity.

November 4, 2004

Jay Walker
Parametrix, Inc.
5561 N. Glenwood Street, Suite B
Boise, ID 83714

Dear Mr. Walker:

I am responding to your request for a list, database records, and shapefile of plant and animal species of special concern for the I-84, Ten Mile Access Idaho Transportation Department Study. ITD Project No. ST-84-1(542)42, Key No. 9349. The project is located in T3N R1W Sections 10, 11, 14, 15, 22, & 23. You asked that I include sections 9, 16, & 21 as well.

The Idaho Conservation Data Center database contains the following known plant and animal occurrences within and within the vicinity of the study area (see included database records for detailed information):

Animals

Peregrine falcon (USFS Sensitive): one occurrence within vicinity of study area.

Plants

NatureServe
NatureServe member

enter, Idaho Department of Fish and Game, 600 South Walnut, P.O. Box 25, Boise, ID 83707
e 208.334.3402 FAX 208.334.2114 http://fishandgame.idaho.gov/

IDAHO FISH & GAME

Lepidium papilliferum [slickspot peppergrass] (USFS Sensitive): one occurrence within the study area.

Other Species to be Considered

Gray wolf: project is within the USFWS Idaho Experimental Nonessential Population Zone.
Pygmy rabbit (USFS Sensitive): needs to be considered if big sagebrush habitat is present.

There were no known occurrences of Federally Listed Threatened or Endangered species in the Idaho Conservation Data Center database.

StreamNet provides the fish species of special concern data and their response is included as a separate letter.

For animal status definitions please go to http://fishandgame.idaho.gov/tech/CDC/animals/home.cfm and for plant status definitions please go to http://fishandgame.idaho.gov/tech/CDC/plants/home.cfm and follow the links for the species you are searching for. On the pages with species and status information you can click on the heading (BLM, USFS, etc.) at the top of the status columns and you will automatically go to the page with the status definitons for that heading.

If there are questions pertaining to this request please contact me at 208-287-2730 or smitchell@idfg.state.id.us.

Sincerely,

Stephanie Mitchell

Stephanie Mitchell
Ecology Information Manager
Office Manager

IDAHO FISH AND GAME
600 South Walnut/Box 25
Boise, Idaho 83707-0025

Dirk Kempthorne/Governor
Steve Huffaker/ Director

STREAMNET
(208) 334-3180

Date:November 19, 2004

STREAMNET DATA REQUEST
FOR: Jay Walker, Parametrix, Inc., 5561 Glenwood Street, Suite B, Boise, ID 83714
Phone 208-898-0012, Fax 208-947-1655, jwalker@parametrix.com, www.parametrix.com
RE: Fish species of special concern
Location: Idaho Transportation Department Project, I-84, Ten Mile Access Study Project
ITD Project No. ST-84-1(542), Key No. 9349

T3N R1W Sections 9, 10, 11, 14, 15, 16, 21, 22, & 23

Federally listed threatened or endangered species and other special status fish species present and their status.

Scientific Name	Common Name	Use Type	Presence	Status:	F	S	USFS	BLM

We do not have any data for fish species of special concern in the GIS for this area at this time. Please consult with the regional fisheries personnel for further information.

Federal Status			Use Type (Anadromous)			Presence (Resident)	
LE	Listed Endangered	1	Spawning and Rearing		2	Historical Distribution
LT	Listed Threatened	2	Rearing Only		3	Documented Not Present
SC	Species of Concern	3	Migration or Present		5	Suspected Not Present
W	Watch	5	Not Present		6	Suspected Present
G	Gamefish	6	Suitable Habitat Blocked		7	Documented Present
S	Sensitive	0	Not Applicable			

This report is the result of a query of the StreamNet fish distribution database at the Idaho Department of Fish and Game (IDFG). Efforts have been made to ensure an accurate and complete database. However, not all IDFG fishery databases have been incorporated into StreamNet. In addition, other agencies have their own databases that may contain fisheries information not included in StreamNet. We recommend that you follow up this report at your local IDFG regional office and both state and federal natural resource agency offices.